

Article 46.—UNDERGROUND INJECTION
CONTROL REGULATIONS

28-16-1. General requirements. (a) Any reference in these regulations to standards, procedures, or requirements of 40 CFR Parts 124, 136, 144, 145, 146, or 261 shall constitute adoption by reference of the entire part, subpart, and paragraph so referenced, including any notes, charts, and appendices, unless otherwise specifically stated in these regulations, except for any references to NPDES, RCRA, PSD, ocean dumping permits, dredge and fill permits under section 404 of the clean water act, the non-attainment program under the clean air act, national emissions standards for hazardous pollutants (HESHAPS), EPA issued permits, and any internal CFR citations specific to those programs. Each reference to 40 CFR 146.04, 40 CFR 146.06, 40 CFR 146.07, and 40 CFR 146.08 shall mean 40 CFR 146.4, 40 CFR 146.6, 40 CFR 146.7, and 40 CFR 146.8, respectively.

(b) When used in any provision adopted from 40 CFR Parts 124, 136, 144, 145, 146, or 261, references to "the United States" shall mean the state of Kansas, "environmental protection agency" shall mean the Kansas department of health and environment, and "administrator," "regional administrator," "state director," and "director" shall mean the secretary of the department of health and environment.

(c) When existing Kansas statutory and regulatory requirements are more stringent than the regulations adopted in subsection (a), the Kansas requirements shall prevail. (Authorized by and implementing K.S.A. 2009 Supp. 65-171d; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-2. (Authorized by and implementing K.S.A. 65-171d; effective May 1, 1982; amended, T- 83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; revoked March 2, 2007.)

28-16-2a. Definitions. (a) The following federal regulations, as in effect on July 1, 2008, are hereby adopted by reference, except as specified:

(1) 40 CFR 124.2, except for the following terms and their definitions:

- (A) "Application";
- (B) "director";
- (C) "draft permit";
- (D) "eligible Indian tribe";
- (E) "environmental appeals board";
- (F) "facility or activity";
- (G) "Indian tribe";
- (H) "major facility";
- (I) "owner or operator";
- (J) "permit";
- (K) "regional administrator";
- (L) "SDWA"; and
- (M) "state";

(2) 40 CFR 144.3, except for the following terms and their definitions:

- (A) "Application";
- (B) "approved state program";
- (C) "appropriate act and regulations";
- (D) "director";
- (E) "draft permit";
- (F) "eligible Indian tribe";
- (G) "Indian tribe";
- (H) "state";

(I) "total dissolved solids"; and

(J) "well";

(3) 40 CFR 144.61;

(4) 40 CFR 146.3, except for the following terms and their definitions:

- (A) "Application";
- (B) "director";
- (C) "exempted aquifer";
- (D) "facility or activity";
- (E) "Indian tribe";
- (F) "owner or operator";
- (G) "permit";
- (H) "SDWA";
- (I) "site"; and
- (J) "well"; and

(5) 40 CFR 146.61(b), except for the term "cone of influence" and its definition.

(b) In addition to the definitions adopted in subsection (a), the following definitions shall apply in this article:

(1) "Application" means the standard departmental form or forms required for applying for a permit, including any additions, revisions, and modifications to the forms.

(2) "Authorized by rule," when used to describe an injection well, means that the well meets all of the following conditions:

(A) The well is a class V injection well.

(B) The well is in compliance with this article.

(C) The well is not prohibited, as specified in K.A.R. 28-46-26a.

(D) The well is not required by the secretary to have a permit.

(3) "Cone of impression" means the mound in the potentiometric surface of the receiving formation in the vicinity of the injection well.

(4) "Cone of influence" means the area around a well within which increased injection pressures caused by injection into the well would be sufficient to drive fluids into an underground source of drinking water (USDW).

(5) "Department" means the Kansas department of health and environment.

(6) "Director" means director of the division of environment of the Kansas department of health and environment.

(7) "Draft permit" means a document prepared by the department after receiving a complete application or making a tentative decision that an existing permit shall be modified and reissued, indicating the secretary's tentative decision to either issue a permit or deny a permit. A draft permit is not required for a minor modification of an existing permit.

(8) "Existing salt solution mining well" means a well authorized and permitted by the secretary before the effective date of these regulations.

(9) "Fracture pressure" means the wellhead pressure that could cause vertical or horizontal fracturing of rock along a well bore.

(10) "Gallery" means a series of two or more salt solution mining wells that are artificially connected within the salt horizon and are produced as a system with one or more wells designated for withdrawal of solutioned salt.

(11) "Injection well facility" and "facility" mean the acreage associated with the injection field and with facility boundaries approved by the secretary. These terms shall include the injection wells, wellhead, and any related equipment, including any appurtenances associated with the well field.

(12) "Maximum allowable injection pressure" means the maximum wellhead pressure not to be exceeded as a permit condition.

(13) "Motor vehicle waste disposal well" and "MV-WDW" mean a disposal well that received, receives, or has the potential to receive fluids from vehicular repair or maintenance activities.

(14) "Notice of intent to deny" means a draft permit indicating the secretary's tentative decision to deny a permit.

(15) "Production casing," when used for a class III well, means the casing inside the surface casing of a well that extends into the salt formation.

(16) "Salt roof" means a distance, determined in feet, from the highest point of a salt solution mining cavern to the top of the salt formation. This distance shall be approved by the secretary.

(17) "Secretary" means the secretary of the Kansas department of health and environment or the secretary's authorized representative.

(18) "Transportation artery" means any highway, county road, township road, private road, or railroad, excluding any existing right-of-way, not owned or leased by the permittee.

(19) "Well" means any of the following:

(A) A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension;

(B) a dug hole whose depth is greater than the largest surface dimension;

(C) a sinkhole modified to receive fluids; or

(D) a subsurface fluid distribution system. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective March 2, 2007; amended Aug. 6, 2010.)

28-16-3. Classification of injection wells. 40 CFR 144.6, 40 CFR 144.80, 40 CFR 144.81, and 40 CFR 146.5, as in effect on July 1, 2008, are adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-4. Injection of hazardous or radioactive wastes into or above an underground source of drinking water. The injection of hazardous or radioactive wastes into or above an underground source of drinking water shall be prohibited. (Authorized by and implementing K.S.A. 2009 Supp. 65-171d; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended Aug. 6, 2010.)

28-16-5. Application for injection well permits. (a) 40 CFR 124.3, except (d), and 40 CFR 144.31, except (c)(1), as in effect on July 1, 2008, are adopted by reference. In addition, the provisions of K.S.A. 65-3437, and amendments thereto, that relate to hazardous waste injection wells shall apply to class I hazardous waste injection wells.

(b) A draft permit shall not be prepared if an applicant fails or refuses to correct deficiencies in the permit application. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-6. Conditions applicable to all permits. 40 CFR 144.51(a) through (p), as in effect on July 1, 2008, are adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-7. Draft permits. (a) Once an application is complete, a draft permit shall be issued by the secretary.

(b) Each draft permit issued after the secretary's decision to issue a permit shall contain the following information:

(1) All conditions under 40 CFR 144.51(a) through (p);

(2) all compliance schedules under 40 CFR 144.53;

(3) all monitoring requirements under 40 CFR 144.54; and

(4) all permit conditions under 40 CFR 144.52.

(c) If the secretary determines, after issuing a notice of intent to deny, that the decision to deny the permit application was incorrect, the notice of intent to deny shall be withdrawn and a draft permit issued under subsection (b). (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-8. Fact sheets. 40 CFR 124.8, except (b)(9), as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-9. Establishing permit conditions. 40 CFR 144.52, except for references to 40 CFR 144.4, 40 CFR 144.36, and part 145, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-10. Term of permits. (a) Class I, III, and V permits shall be effective for a fixed term not to exceed 10 years.

(b) If a permittee wishes to continue an activity regulated by the permit after the expiration date of the permit, the permittee shall submit an application to renew the permit. Each application to renew the permit shall be filed with the department at least 180 days before the permit

expiration date. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended May 1, 1987; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-11. Schedules of compliance. 40 CFR 144.53, except references to 40 CFR part 145, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-12. Requirements for recording and reporting of monitoring results. 40 CFR 144.54, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-13. Effect of a permit. 40 CFR 144.35, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-14. Transfer of permits. 40 CFR 144.38, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-15. Modification and reissuance of permits.

(a) Any permit may be modified and reissued either at the request of any interested person, including the permittee, or upon the secretary's initiative after conducting a review of the permit file.

(b) Each request from any interested person or the permittee shall be submitted in writing and shall contain facts or reasons supporting the request.

(c) If at least one of the causes listed in subsection (d) for modification or reissuance exists, a draft permit including the modifications to the existing permit shall be issued.

(d) Each of the following shall be cause for modification and reissuance:

(1) There are material and substantial alterations or additions to the permitted facility or activity that occurred after permit issuance and justify the application of permit conditions that are different from or absent in the existing permit.

(2) The secretary has received information indicating that the terms of the permit need modification because the information was not provided to the secretary when the permit was issued.

(3) The regulations on which the permit was based have been changed by promulgation of new or amended regulations or by judicial decision after the permit was issued.

(4) The secretary determines that good cause exists for modification of a compliance schedule, including an act of God, strike, flood, materials shortage, or any other event over which the permittee has little or no control and for which there is no reasonably available remedy.

(5) Cause exists for termination under K.A.R. 28-46-16, and the secretary determines that modification and reissuance is appropriate.

(6) The secretary determines that the waste being injected is a hazardous waste either because the definition of hazardous waste has been revised or because a previous determination has been changed.

(7) The secretary determines that the location of the facility is unsuitable because new information indicates that a threat to human health or the environment exists that was unknown at the time of permit issuance.

(e)(1) If the secretary decides to modify and reissue a permit, a draft permit under K.A.R. 28-46-7 shall be prepared by the secretary incorporating the proposed changes. Additional information may be requested by the secretary, and the submission of an updated application may be required by the secretary.

(2) If a permit is modified, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect.

(3) A permit may be modified to make minor modifications to a permit without the issuance of a draft permit. Minor modifications shall include the following:

(A) Correcting typographical errors;

(B) requiring more frequent monitoring or reporting by the permittee;

(C) changing an interim compliance date in a schedule of compliance, if the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

(D) allowing for a change in ownership or operational control of a facility if the secretary determines that no other change in the permit is necessary, if a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the secretary;

(E) changing quantities or types of fluids injected that are within the capacity of the facility as permitted, if the change meets the following conditions:

(i) The change would not interfere with the operation of the facility;

(ii) the change would not interfere with the facility's ability to meet conditions described in the permit; and

(iii) the change would not change the facility's classification;

(F) changing construction requirements previously approved by the secretary; and

(G) amending a plugging and abandonment plan that has been updated. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-16. Termination of permits. 40 CFR 144.40, as in effect on July 1, 2008, is adopted by reference. (Authorized by K.S.A. 2009 Supp. 55-1,117 and 65-171d; implementing K.S.A. 2009 Supp. 55-1,117 and K.S.A. 65-165; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-17. Minor modifications of permits. 40 CFR 144.41, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-18. Area permits. 40 CFR 144.33, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-19. Emergency permits. 40 CFR 144.34, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-20. Corrective action. 40 CFR 144.55, except reference to 40 CFR 146.33(b), 40 CFR 146.7, and 40 CFR 146.64, as in effect on July 1, 2008, are adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-21. Public notice, public comments, and public hearings. 40 CFR 124.10 through 40 CFR 124.12 and 40 CFR 124.17, except references to 40 CFR 145.11, as in effect on July 1, 2008, are adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-22. Signatories. 40 CFR 144.32, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-23. Claims of confidentiality. (a) Applicants for injection permits may claim confidentiality of information to protect trade secrets. These claims shall be submitted in writing at the time application is made for a permit. Upon agreement between the applicant and the secretary, the confidential information shall be stamped "confidential", and the documents shall not be released to the public by the secretary without the prior written consent of the applicant, to the extent provided by law.

(b) Claims of confidentiality shall not apply to release of confidential materials to governmental agencies with responsibilities in water pollution control or to the release of that material due to a court order.

(c) Prohibition of confidentiality. Claims of confidentiality shall not include the name and address of the applicant or permittee or information dealing with the existence, absence, or level of contaminants in drinking water. (Authorized by K.S.A. 1984 Supp. 65-171d; implementing K.S.A. 65-170g; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986.)

28-16-24. Requirements for wells injecting hazardous wastes. 40 CFR 144.14, as in effect on April 1, 1993, is adopted by reference. In addition to 40 CFR 144.14, the following requirements shall be applicable to class I hazardous waste injection wells.

(a) Liability coverage and long-term assurances. Insurance requirements, closure and post-closure requirements, and financial requirements shall be met by compliance with K.A.R. 28-31-8(a). Higher amounts for insurance, bonds or their equivalent may be required by the secretary.

(b) Injection fluids received from multiple generators. Hazardous waste injection wells shall be subject to the requirements in K.A.R. 28-31-8(d).

(c) Disclosure statement. Each applicant shall be subject to the requirements in K.A.R. 28-31-9(c).

(d) Monitoring fees. The monitoring fee schedule shall be as specified in K.A.R. 28-31-10(c).

(e) Pretreatment requirements. Prior to hazardous waste injection, the fluids shall meet minimum pretreatment requirements that are set by the secretary. To the extent feasible, pretreatment shall render the injected fluid compatible with the injection well tubing and casing and with the disposal formation. In setting minimum pretreatment requirements, the secretary shall consider values 100 times greater than the applicable drinking water standards and values 100 times greater than the applicable 10^{-5} cancer risk levels, or other values necessary to prevent contamination of underground drinking water supplies, to protect the public health, and to take into account environmental considerations. (Authorized by and implementing K.S.A. 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994.)

28-46-25. Prohibition of unauthorized injection. (a) Class I and III injection wells shall not be constructed, and underground injection shall not take place, unless authorized by a permit issued by the secretary.

(b) A class V injection well shall no longer be authorized by rule if any of the following conditions is met:

(1) The well is not in compliance with this article.

(2) The well has been closed.

(3) The well has been abandoned.

(4) The secretary has issued a permit for the well. (Authorized by K.S.A. 2005 Supp. 65-171d; implementing K.S.A. 65-165 and K.S.A. 2005 Supp. 65-171d; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 2, 2007.)

28-46-26. (Authorized by and implementing K.S.A. 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; revoked March 2, 2007.)

28-46-26a. Prohibited class V wells. The following types of class V wells shall be prohibited:

(a) Motor vehicle waste disposal wells; and

(b) wells receiving untreated or inadequately treated domestic sewage, as specified in K.A.R.

28-46-27. Prohibition of fluid movement into underground sources of drinking water. 40 CFR 144.12, except references to 40 CFR 144.21 through 144.24, as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and

65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-28. Establishing maximum injection pressure. (a) A maximum allowable injection pressure for each injection well shall be established by the secretary as a permit condition.

(b)(1) All class I wells operating on other than gravity flow shall be prohibited.

(2) In the case of gravity flow, the positive wellhead pressure for a class I well shall not exceed 35 pounds per square inch gauge.

(c) For all wells, the maximum operating pressure shall not be allowed to exceed fracture pressure, except under either of the following conditions:

(1) The development of fractures for well stimulation operations; or

(2) the connection of a class III salt solution mining well to any other class III well for operation as a salt solution mining gallery. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-29. Design and construction requirements. 40 CFR 146.12 and 40 CFR 146.65, governing class I wells, and 40 CFR 146.32, governing class III wells, as in effect on July 1, 2008, are adopted by reference. In addition, the following requirements shall apply to class III salt solution mining wells:

(a) Each salt solution mining well cavern wall shall meet the following requirements:

(1) Be located at least 50 feet from any other active or abandoned brine-supply wells or other holes or excavations penetrating the salt section, unless the wells, holes, or excavations have been properly plugged; and

(2) be located at least 50 feet from any existing surface structures not owned by the permittee, including any transportation artery.

(b) The cavern wall for each solution mining well shall be located at least 50 feet from the property boundaries of any owners who have not consented to the mining of salt under their property.

(c) Each salt solution mining wellhead shall be located at least 150 feet from the property boundaries of any owners who have not consented to the mining of salt under their property.

(d) For each new salt solution mining well, new steel surface casing shall be set through all freshwater formations and encased in cement from bottom to top by circulating cement through the bottom of the casing to the surface.

(e) For each new salt solution mining well, production casing shall be set into the upper part of the salt formation and encased in cement as specified in this regulation. The casing shall extend at least 55 feet into the salt formation. Centralizers shall be used on the outside of the production casing and shall not be spaced more than 100 feet apart. Before setting and cementing the production casing, the mudcake on the bore wall shall be removed by

the use of scratchers or a washing method approved by the director. The cement for that part of the casing opposite the salt formation shall be prepared with salt-saturated cement.

(f) A variance for each well not meeting the requirements of this regulation may be granted by the secretary if all the following conditions are met:

(1) The variance is protective of public health, safety, and the environment.

(2) The permittee agrees to perform any additional monitoring or well improvements, or any combination of these, if required by the secretary.

(3) The permittee agrees to conduct a geomechanical study in support of the variance request. The geomechanical study shall be conducted by a contractor experienced in conducting and interpreting geomechanical studies.

(g) Each permittee seeking a variance shall submit a written request to the secretary for review and consideration for approval. Each request shall include justification for the variance, the geomechanical study and interpretation, and any additional supporting information.

(h) A cement bond log shall be conducted on the production casing after the cement mixture has cured for at least 72 hours and shall be submitted to the department within 45 days after completion of the test. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-29a. Operation of class III salt solution mining wells. (a) A class III salt solution mining well shall not be operated under any of the following conditions:

(1) The salt roof is less than 50 feet in thickness above the washed cavern.

(2) The solution cavern has been developed as a single well, and the dimensions of the cavern across a horizontal plane exceed 400 feet at any depth or 300 feet in the upper one-third of the potential cavern height.

(3) The top of the solution cavern is less than 250 feet from the ground surface.

(4) The solution cavern has been developed as part of a gallery, and the dimensions of the cavern across a horizontal plane exceed 400 feet at any depth or 300 feet in the upper one-third of the potential cavern height, except the route of interconnection between wells.

(5) The depth to the top of the salt section is less than 400 feet below land surface, and the dimensions of the cavern across a horizontal plane exceed 300 feet in diameter, except the route of interconnection between wells.

(6) The distance between adjacent galleries is less than 100 feet from the wall of a cavern in an adjacent gallery.

(7) There are leaks or losses of fluid in the casing or surface pipe of a well.

(b) A variance for any well not meeting the conditions in paragraphs (a)(2) and (a)(4) through (a)(6) may be granted by the secretary if all of the following conditions are met:

(1) The variance is protective of public health, safety, and the environment.

(2) The applicant or permittee agrees to perform any additional monitoring or well improvements, or any combination, if required by the secretary.

(3) The applicant or permittee agrees to conduct a geomechanical study in support of the variance request. The geomechanical study shall be conducted by a contractor experienced in conducting and interpreting geomechanical studies.

(c) Each applicant or permittee seeking a variance shall submit a written request to the secretary that includes justification for the variance, a geomechanical study and interpretation, and any additional supporting information for review and consideration for approval. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective Aug. 6, 2010.)

28-16-30. Monitoring and reporting requirements for class I wells. 40 CFR 146.13, 40 CFR 146.67, 40 CFR 146.68, and 40 CFR 146.69, as in effect on July 1, 2008, are hereby adopted by reference. In addition to 40 CFR 144.14, as adopted in K.A.R. 28-46-24 and 28-46-31, and 40 CFR 146.70, as adopted in K.A.R. 28-46-31, all of the following requirements shall apply to each class I hazardous waste injection well:

(a) Records of the continuously monitored parameters shall be maintained in addition to the monthly average of and the minimum and maximum values of the following parameters:

- (1) Injection pressure;
- (2) flow rate;
- (3) injection volume; and
- (4) annular pressure.

(b) The monitoring results shall be reported to the department on a monthly basis on forms provided by the department.

(c) The necessary number of monitoring wells in appropriate geologic zones for the early detection of contaminant migration shall be determined by the secretary to protect public health, safety, and the environment. (Authorized by and implementing K.S.A. 2009 Supp. 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-30a. Monitoring and reporting requirements for class III salt solution mining wells. 40 CFR 146.33, as in effect on July 1, 2008, is hereby adopted by reference. In addition, all of the following requirements shall apply to each permittee of a class III salt solution mining well:

(a) Within two years of the effective date of this regulation, each permittee shall submit a facility plan for monitoring the injection and withdrawal volumes and injection pressures that meets the secretary's approval and ensures the protection of public health, safety, and the environment.

(b) Each permittee shall monthly submit the following monitoring records to the department on a form provided by the department:

(1) The weekly injection and withdrawal volume for each salt solution mining well or gallery;

(2) the weekly injection and withdrawal ratio for each salt solution mining well or gallery; and

(3) a summary of the weekly minimum and maximum injection pressures for each salt solution mining well or gallery.

(c) Each permittee shall annually submit a report to the department, on a form provided by the department, which shall include the following information:

(1) For each well, a percentage of the remaining amount of salt that can potentially be mined in accordance with these regulations; and

(2) a summary of facility activities regarding abnormal fluid loss, well drilling, well plugging, geophysical well logging, sonar caliper surveys, mechanical integrity testing, calibration and maintenance of flow meters and gauges, elevation survey results, and the description of the model theory used to calculate the percentage of the total amount of remaining salt that can potentially be mined in accordance with these regulations.

(d) If an unanticipated loss of fluid has occurred or the monitoring system indicates that leakage has occurred and has been verified, the permittee shall notify the department orally within 24 hours of discovery and shall provide written confirmation within seven days regarding the abnormal loss or leakage.

(e) A sonar caliper survey shall be conducted on each well when calculations based on a model, approved by the secretary, indicate that 20 percent of the total amount of remaining salt that can be potentially mined in accordance with these regulations has been mined. The well shall be checked by the permittee to determine the dimensions and configuration of the cavern developed by the solutioning. Thereafter, a sonar caliper survey shall be conducted when the calculations indicate that each additional 20 percent of the remaining salt that can be potentially mined in accordance with these regulations has been mined.

(f) Any permittee may use an alternative method for determining the dimensions and configuration of the solution mining cavern if the secretary determines that the alternative method is substantially equivalent to the sonar caliper survey. The permittee shall submit the following information for the secretary's consideration:

(1) A description of the survey method and theory of operation, including the survey sensitivities and justification for the survey parameters;

(2) a description of the well and cavern conditions under which the survey can be conducted;

(3) the procedure for interpreting the survey results; and

(4) an interpretation of the survey upon completion of the survey.

(g) More frequent monitoring of the cavern dimensions and configuration by sonar caliper survey may be required by the secretary if the secretary receives information that the cavern could be unstable. Each existing well shall meet the requirements of the survey frequency established in the well permit. The results of the survey, including logs and an interpretation by a contractor experienced in sonar interpretation, shall be submitted to the department within 45 days of completing the survey.

(h) Any permittee may submit a variance request regarding the sonar caliper survey frequency to the department, if both of the following conditions are met:

(1) The variance is protective of public health, safety, and the environment.

(2) The permittee agrees to perform any additional monitoring or well improvements, or any combination of these, if required by the secretary.

(i) Each permittee seeking a variance shall submit a written request, including justification for the variance and any supporting data to the secretary for review and consideration for approval.

(j) Each permittee shall check the thickness of the salt roof at the end of two years of use and biennially thereafter, unless otherwise permitted by the secretary, by gamma ray log or any other method approved by the secretary. A report of the method used and a copy of the survey shall be submitted to the department within 45 days from completion of the test.

(k) Each permittee shall give oral notification to the department of a verified exceedence of the maximum permitted injection pressure within 24 hours of discovery of the exceedence and submit written notification within seven calendar days to the department.

(l) Each new well shall have a meter to measure injection or withdrawal volume. The permittee shall maintain records of these flow volumes at the facility and shall make the records available to the secretary upon request.

(m) Each permittee shall submit a ground subsidence monitoring plan to the secretary within two years after the effective date of these regulations. The following requirements shall apply:

(1) The ground subsidence monitoring plan shall include the following information:

(A) A description of the method for conducting an elevation survey; and

(B) the criteria for establishing monuments, benchmarks, and wellhead survey points.

(2) The ground subsidence monitoring plan shall meet all of the following criteria:

(A) Level measurements to the accuracy of 0.01 foot shall be made.

(B) Verified surface elevation changes in excess of 0.10 foot shall be reported within 24 hours of discovery to the department.

(C) No established benchmark shall be changed, unless the permittee submits a justification that the change is protective of public health, safety, and the environment.

(D) If a benchmark is changed, the elevation change from the previous benchmark shall be noted in the elevation survey report.

(E) Each permittee shall submit the elevation before and after any wellhead work that results in a change in the survey point at the wellhead.

(3) The elevation survey shall be conducted by a licensed professional land surveyor.

(4) All annual elevation survey results shall be submitted to the department within 45 days after completion of the survey.

(5) All certified and stamped field notes shall be made available by the permittee upon request by the secretary. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective Aug. 6, 2010.)

28-16-30b. Groundwater monitoring for class III salt solution mining wells. (a) Each permittee of a salt solution mining well shall submit a groundwater monitoring plan within two years after the effective date of these regulations to the secretary for review and consideration for approval to ensure the protection of public health, safety, and the environment.

(b) Within two years after the effective date of these regulations, each permittee shall submit a quality assurance plan, including techniques for sampling and analysis, to the secretary for review and consideration for approval to ensure the protection of public health, safety, and the environment.

(c) Each permittee shall collect groundwater samples and analyze the samples for chloride and any other parameters determined by the secretary to ensure the protection of public health, safety, and the environment. The sampling results shall be submitted to the department on forms provided by the department.

(d) Each permittee shall submit the results for chloride analyses from groundwater samples to the department on an annual basis or on a more frequent basis as determined by the secretary to ensure the protection of public health, safety, and the environment. These results shall be submitted on forms provided by the department.

(e) Each permittee shall submit a static groundwater level measurement for each monitoring well with the chloride analyses results as specified in subsection (d).

(f) At any facility where chloride concentrations in the groundwater exceed 250 milligrams per liter or the established background chloride concentration, the permittee may be required to submit a workplan that describes the methods to delineate potential source areas and to control migration of the chloride contamination to the secretary for review and consideration for approval to ensure the protection of public health, safety, and the environment. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective Aug. 6, 2010.)

28-16-31. Information to be considered by the secretary. 40 CFR 146.14, except for reference to 40 CFR 122.42 (g), 40 CFR 146.62, 40 CFR 146.66, 40 CFR 146.70 and 40 CFR part 144, subpart F, for class I wells and 40 CFR 146.34, for class III wells, as in effect on July 1, 2008, are adopted by reference. In addition, all of the following requirements shall be applicable to class I hazardous waste injection wells:

(a) Each applicant shall demonstrate that the well meets the requirements of K.S.A. 65-3439, and amendments thereto, relating to hazardous waste injection wells and applicable to class I hazardous waste injection wells.

(b) Each applicant shall be responsible for providing information to the department necessary to substantiate that well injection of the hazardous waste liquid in question is the most reasonable method of disposal after all other options have been considered.

(1) Factors to be considered in determining the most reasonable method shall include those required by K.S.A. 65-3439, and amendments thereto.

(2) All factors considered shall be documented in a report submitted to the department for review and consideration for approval.

(c) Each applicant shall determine, through a detailed record search and field survey, the location of each abandoned oil and gas well and exploratory hole within the area of review, as specified in K.A.R. 28-46-32.

(1) An interview with those responsible for drilling, producing, plugging, or witnessing these activities shall be a part of the record.

(2) The results of the field survey shall be documented in a report submitted to the department.

(3) A map geographically documenting the location of all the holes and abandoned wells within the area of review, as specified in K.A.R. 28-46-32, shall be included as a part of the report specified in paragraph (c)(2). (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-32. Area of review. (a) The area of review for each class I hazardous waste injection well shall be no less than 2½ miles or shall extend to the limits of the calculated cone of influence, whichever is greater.

(b) The area of review for each class I non-hazardous waste injection well shall be no less than one mile or shall extend to the limits of the calculated cone of influence, whichever is greater.

(c) The area of review for each class III injection well shall be no less than ¼ mile.

(d) The area of review for each class V injection well shall be no less than ¼ mile. (Authorized by and implementing K.S.A. 65-171d; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended May 1, 1987; amended March 21, 1994.)

28-16-33. Mechanical integrity testing. (a) A mechanical integrity test consisting of a pressure test with a liquid to evaluate the absence of a significant leak in the casing, tubing, or packer and a test to determine the absence of significant fluid movement through vertical channels adjacent to the wellbore shall be required of each

class I and class III permittee on each injection well at least once every five years.

(1) For class I hazardous waste injection wells, the mechanical integrity test shall be conducted in accordance with 40 CFR 146.8, except for reference to 40 CFR 146.33(b), as in effect July 1, 2008, which is hereby adopted by reference, and 40 CFR 146.68(d), as adopted in K.A.R. 28-46-30, by conducting all of the following:

(A) A pressure test with a liquid of the casing, tubing, and packer at least annually and if there has been a well workover;

(B) a test of the bottom-hole cement by use of an approved radioactive survey at least annually;

(C) a temperature, noise, or oxygen activation log to test for movement of fluid along the borehole at least once every five years; and

(D) a casing inspection log at least once every five years.

(2) For class I non-hazardous waste injection wells, the mechanical integrity test shall be conducted in accordance with 40 CFR 146.8.

(3) For class III injection wells, the mechanical integrity test shall be conducted in accordance with 40 CFR 146.8, except the casing shall be pressure tested by the use of a mechanical packer or retrievable plug.

(b) Each permittee shall be notified at least 30 days in advance by the secretary that a mechanical integrity test shall be performed, or a permittee may notify the department that a voluntary mechanical integrity test will be performed at least 14 days in advance of the test.

(c) Each permittee shall be required to cease injection operations immediately and to conduct a mechanical integrity test if continued use of an injection well constitutes a threat to public health or to waters of the state. Injection operations shall not be resumed until all of the following conditions are met:

(1) The test has been conducted.

(2) The test has demonstrated that the well has mechanical integrity.

(3) The well has been approved for use by the secretary.

(d) The secretary's authorized representative shall witness all of the pressure mechanical integrity tests performed.

(e) Each permittee shall submit results of all mechanical integrity tests to the secretary, in writing, within 30 days after the test has been conducted.

(f) 40 CFR 144.51(q), as in effect on July 1, 2008, is adopted by reference. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-34. Plugging and abandonment. 40 CFR 144.51(n), 40 CFR 144.52(a)(6), 40 CFR 146.10, except for reference to 40 CFR 144.23(b) and 40 CFR 146.04, 40 CFR 146.71, 40 CFR 146.72, and 40 CFR 146.73, as in effect on July 1, 2008, are adopted by reference. In addition, both of the following requirements shall apply to class III salt solution mining wells:

(a) The plugging of each salt solution mining well shall be conducted as specified in the department's document titled "procedure for plugging and abandonment of a class III salt mining well," procedure #: UICIII-7, dated March 2005, and hereby adopted by reference.

(b) Any permittee may use an alternative method for the plugging of each salt solution mining well if the secretary determines that the alternative method is substantially equivalent to the procedure specified in subsection (a) and is protective of public health, safety, and the environment. The permittee shall submit a detailed description of the alternative plugging method for the secretary's consideration. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-16-34a. Closure of class V motor vehicle waste disposal wells (MVWDW) and large-capacity cesspools. (a) The following documents are hereby adopted by reference:

(1) The following federal regulations as in effect on July 1, 2005:

(A) 40 CFR 144.12(a);

(B) 40 CFR 144.89; and

(C) 40 CFR 146.10(c); and

(2) "class V underground injection control motor vehicle waste disposal well (MVWDW) sampling and closure procedures," procedure # UICV-2, published by the department and dated August 2006.

(b) Each class V motor vehicle waste disposal well shall be closed in a manner that meets the requirements of all of the documents adopted by reference in subsection (a).

(c) Each large-capacity cesspool shall be closed in a manner that meets the requirements of the federal regulations adopted by reference in paragraphs (a) (1) (A), (B), and (C). (Authorized by and implementing K.S.A. 2005 Supp. 65-171d; effective March 2, 2007.)

28-16-35. State inspection and right of entry. Each well owner or operator shall allow an authorized representative of the secretary access to the well facility for the purpose of determining compliance with these regulations. (Authorized by K.S.A. 2009 Supp. 55-1,117 and 65-171d; implementing K.S.A. 2009 Supp. 55-1,117 and K.S.A. 65-170b; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended Aug. 6, 2010.)

28-16-36. Waiver of requirements by secretary. 40 CFR 144.16, as in effect on April 1, 1993, is adopted by reference. (Authorized by and implementing K.S.A. 1984 Supp. 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994.)

28-46-37. (Authorized by and implementing K.S.A. 1984 Supp. 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; revoked March 21, 1994.)

28-46-38. Inventory and assessment of class V injection wells. 40 CFR 144.83(a)(1) and (a)(2)(i), as in effect on July 1, 2005, is adopted by reference. Each well owner or well operator shall submit the required inventory information to the secretary on a form provided by the department. (Authorized by and implementing K.S.A. 2005 Supp. 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended March 2, 2007.)

28-46-39. (Authorized by and implementing K.S.A. 1984 Supp. 65-171d; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; revoked March 21, 1994.)

28-46-40. Exempted aquifers. (a) An aquifer may be designated by the secretary as exempt from protection as an underground source of drinking water. Criteria for exemption may include whether the aquifer meets one of the following conditions:

(1) Contains water with more than 10,000 milligrams per liter of total dissolved solids;

(2) produces mineral, hydrocarbon, or geothermal energy; or

(3) is situated at a depth that makes the recovery of water economically impractical.

(b) Each request to exempt an aquifer under subsection (a) shall be first submitted to and approved by the administrator of the United States environmental protection agency. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective May 1, 1982; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended Aug. 6, 2010.)

28-46-41. Sharing of information. 40 CFR 145.14, as in effect on July 1, 2008, is adopted by reference. (Authorized by K.S.A. 2009 Supp. 55-1,117 and 65-171d; implementing K.S.A. 2009 Supp. 55-1,117 and 65-170g; effective May 1, 1982; amended, T-83-49, Dec. 22, 1982; amended May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994; amended Aug. 6, 2010.)

28-46-42. Exclusion of oil and gas related wells. The following class II injection wells shall be exempted from the provisions in article 46 of these regulations:

(a) any well which injects fluids brought to the surface in connection with the conventional production of oil or gas;

(b) any well which injects wastewaters from gas plants which are an integral part of production operations, unless those waters are classified hazardous at the time of injection; or

(c) any well which injects fluids to enhance the recovery of oil or natural gas. (Authorized by and implementing K.S.A. 65-171d; effective, T-83-7, April 29, 1982; effective May 1, 1983; amended, T-86-47, Dec. 19, 1985; amended May 1, 1986; amended March 21, 1994.)

28-46-43. Analyses to be performed by laboratory certified by the secretary. If a sample analysis is required by the secretary for the purposes of any permit or application for a permit under these regulations, the analysis shall be performed by a laboratory which has been certified and approved by the secretary for conducting such sample analysis. (Authorized by and implementing K.S.A. 65-171d; effective March 21, 1994.)

28-46-44. Sampling and analysis techniques. (a) Sampling and analysis shall be performed in accordance with the techniques specified in 40 CFR part 136 and the appendices, as in effect on July 1, 2008, which are adopted by reference.

(b) If 40 CFR part 136 does not contain sampling and analytical techniques for the parameter in question or if the sampling and analytical techniques in part 136 are inappropriate for the parameter in question, the sampling and analysis shall be performed using validated analytical methods or other appropriate sampling and analytical procedures approved by the secretary to ensure the protection of public health, safety, and the environment. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117 and 65-171d; effective March 21, 1994; amended Aug. 6, 2010.)

28-46-45. Salt solution mining well operations; fees. (a) Each permittee shall submit an annual permit fee of \$12,000 per facility and \$175 per unplugged salt solution mining well to the department on or before April 1 of each year.

(b) Payment shall be made to the "Kansas department of health and environment - subsurface hydrocarbon storage fund."

(c) The fees collected under this regulation shall be non-refundable.

(d) If ownership of a salt solution mining well or salt solution mining facility changes during the term of a valid permit, no additional fee shall be required unless a change occurs that results in a new salt solution mining well or expansion of the facility's operation. (Authorized by and implementing K.S.A. 2009 Supp. 55-1,117; effective Aug. 6, 2010.)