

Kansas Administrative Regulations

Department of Health and Environment

Article 45.—Underground Hydrocarbon Storage Wells and Associated Brine Ponds

28-45-16. Storage well and cavern monitoring.

(a) Each permittee shall ensure that each storage well is equipped with a continuous pressure-monitoring system for both the product lines and the brine lines of the wellhead. Each permittee shall maintain the continuous pressure-monitoring data as specified in K.A.R. 28-45-19 and shall provide pressure-monitoring data to the department upon request.

(b) Each permittee shall ensure that each continuous pressure-monitoring system is capable of recording the maximum and minimum operating pressures at least every 60 seconds during each 24-hour period.

(c) Each permittee shall submit a written plan, including logging and sonar surveys, to the department for the secretary's review and consideration for approval, at least 30 days before any monitoring activity begins.

(d) Each permittee shall monitor salt roof thickness for each active well and monitoring status storage cavern with a gamma ray log and a density log. Each permittee shall comply with the storage cavern limitations specified in K.A.R. 28-45-6a. A professional geologist shall verify the top of salt and effective casing seat. Salt roof thickness shall be monitored as follows:

(1) Every three years, if salt roof thickness is less than 100 feet but more than 50 feet;

(2) every five years, if salt roof thickness is 100 feet or more;

(3) before conversion to monitoring status or permanent monitoring status;

(4) before plugging; and

(5) at any time the department determines the mechanical integrity is suspect.

(e) Each permittee shall monitor each storage cavern that is considered an active well using a sonar survey. The brine string shall be removed at least for every other sonar survey. The sonar survey shall be completed as follows:

- (1) Before a storage well is considered an active well;
- (2) every five years, if web thickness is less than 100 feet but more than 50 feet;
- (3) every 10 years, if web thickness is 100 feet or more;
- (4) before conversion to permanent monitoring status if a sonar survey has not been completed within the last five years;
- (5) before plugging; and
- (6) at any time the department determines the mechanical integrity is suspect.

(f) Each permittee shall submit the results of any monitoring activity and an interpretation of the results to the department within 90 days of completion.

(g) Each applicant shall submit a subsidence monitoring plan that complies with the requirements of subsection (h) with the facility permit application.

(h) Each permittee shall complete a subsidence monitoring survey biennially. The subsidence monitoring survey report shall include a description of the method for conducting an elevation survey and criteria for establishing monuments, benchmarks, wellhead survey points, and natural or artificial reflectors. The following requirements shall apply:

- (1) Global positioning system coordinates shall be recorded at each survey point.
- (2) Level measurements to the accuracy of 0.01 foot shall be made.
- (3) Surface elevation changes more than a rate of 0.10 foot per year shall be reported to the department within 30 days of detection.

(4) No established benchmark or artificial reflector shall be changed, unless the permittee submits justification for the change to the department for the secretary's review and consideration for approval. If an established benchmark or artificial reflector is changed, the elevation change from the previous benchmark shall be noted in the elevation survey report.

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

(6) A professional surveyor shall certify the elevation survey.

(7) Each permittee shall submit biennial elevation survey results to the department within 90 days of completion. The elevation survey report shall include a signature by a professional surveyor certifying the results, a tabulation by well number or measuring point identifier comparing the most recent survey with the previous survey, and an interpretation of the results. The permittee shall keep survey field notes on file and make the notes available to the department upon request.

(Authorized by and implementing K.S.A. 2022 Supp. 55-1,117; effective, T-28-4-1-03, April 1, 2003; effective Aug. 8, 2003; amended Aug. 9, 2024.)

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