

Kansas Administrative Regulations

Department of Health and Environment

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

28-45-17. Mechanical integrity test; casing evaluations.

(a) Each permittee shall submit a plan to conduct a mechanical integrity test to the department for the secretary's review and consideration for approval before beginning a mechanical integrity test. A mechanical integrity test shall not proceed without approval by the secretary. Each plan shall include the following information:

- (1) The type and method of the mechanical integrity test proposed;
- (2) specification of whether the test is for the casing, cavern, or both;
- (3) justification for test parameters and calculations;
- (4) test sensitivities;
- (5) test calibrations; and
- (6) the pass and fail criteria for the test.

(b) Each mechanical integrity test shall be completed as follows:

- (1) Before a storage well and cavern is considered an active well;
- (2) every five years for each active well;
- (3) before conversion to monitoring status or permanent monitoring status if a mechanical integrity test has not been completed within the last five years;
- (4) before plugging; and
- (5) after each workover on the storage well casing that involves changes to any cemented casing string.

(c) Each permittee shall conduct a mechanical integrity test on each active well by using an interface test capable of identifying the location of a leak according to the following:

- (1) Each mechanical integrity test on the storage well casing shall demonstrate sensitivity to detect a leakage rate in the casing of at least 100 barrels of fluid per year.

(2) Each mechanical integrity test on a storage cavern shall demonstrate sensitivity to detect a leakage rate of at least 1,000 barrels of fluid per year.

(d) Any permittee may use a hydraulic casing test if approved by the department before plugging, conversion to monitoring status, or conversion to permanent monitoring status.

(e) Each permittee shall ensure that each mechanical integrity test uses certified gauges and pressure transducers that have been calibrated within one year of the mechanical integrity test date.

(f) Each permittee shall submit results and a written summary report of each mechanical integrity test within 90 days of completion. Each permittee shall have a professional engineer or professional geologist review and certify each mechanical integrity test result and report. Each report shall include the following information:

- (1) A chronology of the mechanical integrity test procedures;
- (2) copies of all logs, including a narrative interpretation by a logging expert of each log;
- (3) storage well and cavern completion information, including schematics;
- (4) pressure readings;
- (5) volume measurements;
- (6) an interpretation of the mechanical integrity test results and calculations, including an explanation of identified anomalies and any issues or problems with any storage well and cavern;
- (7) an adjusted maximum allowable operating pressure, if the mechanical integrity test was not conducted at the currently permitted gradient; and
- (8) a signature by a professional engineer or professional geologist certifying the mechanical integrity test results.

(g) No permittee shall use a storage well if the mechanical integrity test is not certified by a professional engineer or professional geologist.

(h) Each permittee shall notify the department if a storage well fails a mechanical integrity test within one week of the failed mechanical integrity test. If a storage well fails a mechanical integrity test, the storage well shall be considered out of service and each permittee shall meet the following requirements:

(1) Complete an approved method to assess cavern roof, top of salt, and any trapped product;

(2) demonstrate mechanical integrity using an alternative method approved by the department;

(3) remove all feasible product;

(4) fill the cavern with saturated brine; and

(5) submit a plan to convert a storage well to monitoring status or permanent monitoring status or submit a plan to remediate the storage well within two years of the failed mechanical integrity test.

(i) Each permittee shall complete a casing evaluation for each active well. Each permittee shall submit a written plan for a casing evaluation to the department for the secretary's review and consideration for approval, at least 30 days before beginning the casing evaluation.

(j) Each casing evaluation shall be completed as follows:

(1) Every five years for a storage well with single casing;

(2) every 10 years for a storage well with double casing or a production casing and a cemented liner; and

(3) before conversion of a storage well from monitoring status to an active well.

(k) Each permittee shall submit the casing evaluation report to the secretary for review and consideration for approval, within 90 days of completion. Each casing evaluation report shall include the following information:

(1) A copy of any logs that were completed;

(2) a detailed written interpretation of any logs that were completed;

(3) a description of the presence of any metal loss due to either corrosion or wear;

(4) the degree of penetration of the corrosion or the casing defect;

(5) the circumferential extent of the corrosion or the casing defect;

(6) any calculations used in the casing evaluation; and

(7) a signature by a professional engineer certifying the review and analysis of the casing evaluation.

(l) Each permittee shall submit a cement bond log with the casing evaluation if a cement bond log is not currently on file with the department.

(m) A professional engineer or professional geologist, or a professional engineer's or professional geologist's designee, shall supervise each mechanical integrity test and any associated field activities.

(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 *****