

Kansas Administrative Regulations

Kansas Corporation Commission

Article 3.—Production and Conservation of Oil and Gas

82-3-1210. Storage facility construction and integrity.

(a) Each operator shall equip the storage facility according to a storage facility integrity plan signed by a licensed professional engineer and a licensed professional geologist. The operator shall submit a storage facility integrity plan that includes the following:

(1) A description of how each storage facility will be constructed, equipped, operated, maintained, and abandoned to protect public safety, usable water, and soil; and

(2) information demonstrating that the storage facility and each storage well will meet the requirements of subsections (b) through (l).

(b) Each operator shall equip each air injection flow line and withdrawal flow line connecting the electrical generating facility to any storage well with a manually operated positive shutoff valve at the following locations:

(1) Within 20 feet of the electrical generating facility;

(2) on the wellhead of each storage well; and

(3) within 15 feet of any class I injection well located within the storage facility boundary.

(c) Each operator shall ensure that all components of the storage facility meet the following requirements:

(1) Are composed of material capable of withstanding the corrosive nature of the compressed air injected or withdrawn; and

(2) are rated at a minimum of 125 percent of either the maximum allowable operating pressure for each storage well or the air compressor train design, whichever is greater. Each operator shall ensure that the pressure ratings are clearly identified on each flow line, valve, and fitting connecting the storage facility to each storage well.

(d) Each operator shall install equipment to sample and monitor injected air quality, with the air sampling location located at least 30 feet from the electrical generating facility and at each storage well.

(e) (1) Each operator shall install the following at each cavern storage facility:

(A) Within 30 feet of the electrical generating facility or at each cavern storage well, equipment that prevents the injection of water and moisture, including any alarm and safety device; and

(B) a continuously operating SCADA system approved by the director that includes meters and gauges that measure pressure, temperature, water and moisture content, total volume, and flow rate and that automatically closes any air injection and withdrawal line, air compressor train, and brine or water line if an emergency occurs or if any pressure, temperature, total volume, or flow rate meter or gauge fails.

(2) Warning systems for the SCADA system shall consist of pressure, temperature, water and moisture content, total volume, and flow rate sensors connected to an alarm and emergency shutdown instrumentation. The equipment shall be capable of automatically closing all of the following if an emergency occurs:

(A) Air injection and withdrawal flow lines at the storage facility;

(B) the air compressor train;

(C) the brine or water flow lines; and

(D) all wells of any type that are associated with the cavern storage facility and located within the storage facility boundary.

(3) The SCADA system circuitry shall be designed so that the failure of a pressure, temperature, water and moisture content, total volume, or flow rate meter or gauge will activate the warning system.

(4) The total volume, rate, temperature, and pressure of air injected into or withdrawn from each cavern storage well shall be measured, metered, or gauged with sufficient accuracy and precision to allow the director to determine whether the storage well is operating within the conditions in the permit. The original field record consisting of magnetic tapes, digital electronic data, meter charts, or records of air injected and withdrawn shall be retained for at least five years and made available to the conservation division upon request.

(f) Each operator shall equip each reservoir storage facility as specified in this subsection.

(1) Each operator shall install a continuously operating SCADA system that includes meters and gauges that measure pressure, total volume, and flow rate and that automatically closes any air injection or withdrawal line, air compressor train, and brine or water line if an emergency occurs or if a pressure, total volume, or flow rate meter or gauge fails.

(2) Warning systems for the SCADA system shall consist of pressure, total volume, and flow rate sensors connected to an alarm and emergency shutdown instrumentation. The equipment shall be capable of automatically closing all of the following if an emergency occurs:

(A) Air injection and withdrawal flow lines at the storage facility;

(B) the compressor train at the storage facility;

(C) brine, water, or oil flow lines; and

(D) all wells of any type that are associated with the reservoir storage facility and located within the storage facility boundary.

(3) The SCADA system circuitry shall be designed so that the failure of a pressure, total volume, or flow rate meter or gauge will activate the warning system.

(4) The total volume, rate, and pressure of air injected into or withdrawn from each reservoir storage well shall be measured, metered, or gauged with the accuracy and precision approved by the director. The original field record consisting of magnetic tapes, digital electronic data, meter charts, or records of air injected and withdrawn shall be retained for at least five years and shall be made available to the conservation division upon request.

(g) Each operator shall ensure that each SCADA system is connected by a communication link to the local control room and each remote control center.

(h) Each operator shall ensure that an audible manual warning system is available to storage facility personnel in the local control room and each remote control center.

(i) Each operator shall install and maintain a corrosion control system.

(1) Each operator shall evaluate the corrosion control system in a manner and pursuant to a schedule recommended by the system manufacturer and shall submit the results to the conservation division annually on or before April 1.

(2) Each operator shall ensure that the corrosion control system for cavern storage wells protects the following:

(A) Any storage well casing or liner;

(B) any surface equipment and injection or withdrawal flow line connecting the electrical generating facility to any storage well;

(C) any brine disposal flow line, including the last positive shutoff valve connecting the storage facility with any well of any type at the storage facility; and

(D) any surface equipment, including any brine tank and piping network used for first fill operations or conversion of an active storage well and cavern to plugging-monitoring status.

(3) Each operator shall ensure that the corrosion control system for reservoir storage wells protects the following:

(A) Any storage well casing and liner;

(B) any brine, water, or oil disposal flow line, including the last positive shut off valve connecting the storage facility with any well of any type at the storage facility; and

(C) any surface equipment and injection or withdrawal flow line connecting the electrical generating facility to any storage well.

(j) Each operator shall ensure that the storage facility is equipped with security measures to prevent access by individuals without authorization or a legal right to enter the storage facility, including the following:

(1) Each operator shall post a sign at each entrance to the storage facility large enough to be legible at 50 feet during normal daytime conditions that states the following: the storage facility name; the operator name and license number; the storage facility location by quarter section, section, township, range, and county; and the operator emergency contact phone number.

(2) Each operator shall ensure that the electrical generating facility is equipped with security lighting and surrounded by a fence located approximately 25 feet outside the electrical generating facility boundary.

(3) Each operator shall ensure that the electrical generating facility is protected from accidental damage by vehicular or shipping traffic.

(k) Each operator shall drill and complete shallow monitoring wells and deep monitoring wells to determine the initial groundwater quality and the effects of any spill or loss of containment on groundwater.

(l) Each operator shall install a leak detector at any storage well located within 330 feet of an inhabited residence, commercial establishment, church, school, park, or public building.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

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