



Ohio Administrative Code

Rule 1501:9-5-10 Operation, monitoring and reporting of enhanced recovery projects.

Effective: May 31, 1998

The following provisions shall apply to the operation of all enhanced recovery projects:

(A) A well completion record in accordance with section 1509.10 of the Revised Code and Chapter 1501:9-5 of the Administrative Code, shall be filed with the division within thirty days after completion of or conversion to an input, withdrawal, or observation well. This record shall include results of initial testing of construction as described in paragraph (C) of rule 1501:9-5-09 of the Administrative Code.

(B) The project owner shall notify the appropriate oil and gas well inspector when injection is to commence. A division office shall be notified when the appropriate inspector cannot be contacted.

(C) Under no circumstances shall liquids or waste matter from any source, other than freshwater, saltwater from oil and gas operations, standard well treatment fluid, or other fluids approved by the division be injected into any input well for which a permit is issued under Chapter 1509:9-5 of the Administrative Code.

(D) The maximum allowable injection pressure for the enhanced recovery project shall be determined by one of the following methods:

(1) The formula $p_m = (0.75 - p_g)d$; where p_m equals the maximum surface injection pressure (psi), 0.75 equals the maximum allowable injection pressure gradient (psi/ft), p_g equals the pressure gradient of injection fluid (psi/ft), and d equals the depth to the shallowest part of the proposed injection formation or zone on the subject tract or tracts; or

(2) Such other formula or test found to be accurate as applied to the facts presented in an application and approved by the division.

(E) The injection well owner shall monitor injection pressures and injection volumes for each input



well on a daily operational basis with average and maximum pressures and volumes compiled monthly and filed annually with the division on a form supplied by the division. If the enhanced recovery project is operating under a manifold system, volume and pressure may be reported on a project basis.

(F) The annulus between the casing and tubing shall be monitored during injection of fluids at least monthly at a pressure, as noted on the permit, sufficient to detect leaks. Monitoring results shall be reported to the division annually on a form supplied by the division.

(G) In the event the monitoring in paragraph (F) of this rule is not feasible, as determined by the chief, the project owner shall show mechanical integrity once every five years. Prior to the commencement of any mechanical integrity test, the project owner shall notify the appropriate oil and gas well inspector, or a division office when the appropriate inspector cannot be contacted. All records of tests shall be retained by the project owner for a period of at least five years or until a subsequent mechanical integrity test is performed. Results of all mechanical integrity tests shall be recorded on a form provided by the division and shall be filed with the division within thirty days after the completion of the mechanical integrity test. Mechanical integrity shall be shown by one or more of the following methods:

(1) The casing, tubing and packer shall be tested by pressurizing the annulus between the tubing and the casing outside the tubing to an amount equal to the maximum allowable injection pressure, as determined in paragraph (D) of this rule, or at a pressure of three hundred pounds per square inch (psi), whichever is greater, for a duration of fifteen minutes with no more than a five year cent decline in pressure unless otherwise approved by the division;

(2) Tracer surveys;

(3) Noise logs;

(4) Temperature surveys; or

(5) Any logs or tests considered effective by the chief.



(H) When mechanical integrity failures or downhole problems cause contamination of the land, surface waters, or subsurface waters, the project owner shall cease all injection operations immediately until the chief determines that the problems have been corrected. The chief may require the project owner to furnish a written plan for testing or repairing the well or wells. Within five days of receipt, the chief shall review the plan and either accept, modify, or if the plan is inadequate, order necessary corrective action. The project owner shall submit a description of the incident, the actions taken to correct the situation, and the results of those actions on the next required annual report as described in paragraphs (E) and (F) of this rule.

(I) The division shall have the authority to sample injection fluids at any time during injection operations.

(J) Any input well which is or becomes incapable of injecting fluids or any withdrawal well which is or becomes incapable of producing oil or gas shall be plugged in accordance with sections 1509.13 and 2509.25 of the Revised Code, unless written permission is granted by the chief. If the chief finds that a well should be plugged, he shall notify the project owner to that effect by order, in writing, and shall specify in such order a reasonable time within which to comply. No project owner shall fail or refuse to plug a well within the time specified in the order. Each day on which such a well remains unplugged thereafter constitutes a separate offense.