**Section 730.113 Operating, Monitoring, and Reporting Requirements**

a) Operating Requirements. Operating requirements must, at a minimum, specify the following:

1) That, except during stimulation, injection pressure at the wellhead must not exceed a maximum that must be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case must injection pressure initiate fractures in the confining zone or cause the movement of injection or formation fluids into an underground source of drinking water;

2) That injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited; and

3) That, unless an alternative to a packer has been approved pursuant to Section 730.112(c), the annulus between the tubing and the long string of casings must be filled with a fluid approved by permit condition, and a pressure prescribed by permit condition must be maintained on the annulus.

b) Monitoring Requirements. Monitoring requirements must, at a minimum, include all of the following:

1) The analysis of the injected fluids with sufficient frequency to yield representative data of their characteristics;

2) Installation and use of continuous recording devices to monitor injection pressure, flow rate, and volume, and the pressure on the annulus between the tubing and the long string of casing;

3) A demonstration of mechanical integrity pursuant to Section 730.108 at least once every five years during the life of the well; and

4) The type, number, and location of wells within the area of review to be used to monitor any migration of fluids into and pressure in the underground sources of drinking water, the parameters to be measured, and the frequency of monitoring.

c) Reporting Requirements. Reporting requirements must, at a minimum, include:

1) Quarterly reports to the Agency on each of the following:

A) The physical, chemical, and other relevant characteristics of injection fluids;

B) The monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure; and

C) The results of monitoring prescribed pursuant to subsection (b)(4).

2) Reporting the results, with the first quarterly report after the completion of each of the following:

A) Periodic tests of mechanical integrity;

B) Any other test of the injection well conducted by the permittee if required by permit condition; and

C) Any well work over.

d) Ambient

1) Based on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement, the Agency must require the owner or operator to develop a monitoring program. At a minimum, the Agency must require monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.

2) When prescribing a monitoring system the Agency may also require:

A) Continuous monitoring for pressure changes in the first aquifer overlying the confining zone. When such a well is installed, the owner or operator must, on a quarterly basis, sample the aquifer and analyze for constituents specified by permit condition;

B) The use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by permit condition or to provide other site-specific data;

C) Periodic monitoring of the ground water quality in the first aquifer overlying the injection zone;

D) Periodic monitoring of the ground water quality in the lowermost USDW; and

E) Any additional monitoring necessary to determine whether fluids are moving into or between USDWs.

BOARD NOTE: Derived from 40 CFR 146.13 (2017).

(Source: Amended at 42 Ill. Reg. 24145, effective November 19, 2018)