

**3745-34-56 Operating requirements.**

- (A) Except during stimulation, the owner or operator of a class I injection well shall assure the director in writing, that injection pressure at the wellhead does not exceed a maximum which shall be calculated so as to ensure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. The owner or operator shall operate a class I injection well such that the injection pressure does not initiate fractures or propagate existing fractures in the confining zone, or cause the movement of injection or formation fluids into a USDW.
- (B) Injection between the outermost casing protecting USDWs and the well bore is prohibited.
- (C) The owner or operator of a class I hazardous waste injection well shall maintain an annulus pressure that exceeds the operating injection pressure, unless the director determines that such a requirement might harm the integrity of the well. The fluid in the annulus shall be noncorrosive, or shall contain a corrosion inhibitor.
- (D) The owner or operator of a class I hazardous waste injection well shall maintain mechanical integrity of the injection well at all times.
- (E) Permit requirements for owners or operators of hazardous waste wells which inject wastes which have the potential to react with the injection formation to generate gases shall include:
  - (1) Conditions limiting the temperature, pH or acidity of the injected waste; and
  - (2) Procedures necessary to assure that pressure imbalances which might cause a backflow or blowout do not occur.
- (F) The owner or operator of a class I hazardous waste injection well shall install and use continuous recording devices to monitor the injection pressure; the flow rate, volume, and temperature of injected fluids and the pressure on the annulus between the tubing and the long string casing, and shall install and use:
  - (1) Automatic alarm and automatic shut-off systems, designed to sound and shut-in the well when pressures and flow rates or other parameters approved by the director exceed a range and/or gradient specified in the permit; or
  - (2) Automatic alarms, designed to sound when the pressures and flow rates or other parameters approved by the director exceed a rate and/or gradient specified in operator will be on-site at all times when the well is

operating.

- (G) If an automatic alarm or shutdown is triggered, the owner or operator shall investigate immediately and identify as expeditiously as possible the cause of the alarm or shutoff. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required under paragraph (F) of this rule otherwise indicates that the well may be lacking mechanical integrity, the owner or operator shall:
- (1) Immediately cease injection of waste fluids unless authorized by the director to continue or resume injection; and
  - (2) Take all necessary steps to determine the presence or absence of a leak; and
  - (3) Notify the director within twenty-four hours after the alarm or shutdown.
- (H) In the event that a loss of mechanical integrity is discovered pursuant of this rule or during periodic mechanical integrity testing, the owner or operator shall:
- (1) Immediately cease injection of waste fluids; and
  - (2) Take all steps reasonably necessary to determine whether there may have been a release of hazardous wastes or hazardous waste constituents into any unauthorized zone; and
  - (3) Notify the director within twenty-four hours after loss of mechanical integrity is discovered; and
  - (4) (4) Notify the director when injection can be expected to resume; and
  - (5) Restore and submit a demonstration of mechanical integrity for approval by the director prior to resuming injection of waste fluids.
- (I) Whenever the owner or operator of a class I hazardous waste injection well obtains evidence that there may have been a release of injected wastes into an unauthorized zone:
- (1) The owner or operator shall immediately cease injection of waste fluids, and:
    - (a) Notify the director within twenty-four hours of obtaining such evidence; and the permit, in cases where the owner or operator certifies that a trained

- (b) Take all necessary steps to identify and characterize the extent of any releases; and
  - (c) Comply with any remediation plan specified by the director; and
  - (d) Where such release is into a USDW currently serving as a water supply, immediately notify the public water system(s) using that USDW and place a notice in a newspaper of general circulation.
- (2) The director may allow the operator to resume injection prior to completing cleanup action if the owner or operator demonstrates that the injection operation will not endanger USDWs.
- (J) The owner or operator of a class I hazardous waste injection well shall submit a plan for approval to the director prior to conducting any well work over which requires removal of the injection tubing.

Effective: December 16, 1991

R.C. 119.032 review dates: 12/08/2005 and 12/08/2010

Promulgated Under: 119.03

Statutory Authority: RC Section 6111.043

Rule Amplifies: RC Section 6111.043

Prior Effective Dates: None