

Underground Injection Control Program
Rules and Regulations



State of Rhode Island and Providence Plantations
Department of Environmental Management
Division of Water Resources

Effective 31 May 1984

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Section 1: Purpose

It is the purpose of these regulations to preserve the quality of the groundwater of the State and thereby protect groundwater from contamination by discharge from injection wells and other subsurface waste disposal of hazardous and other wastes. It is the policy of the Department of Environmental Management to assure the proper location, design, construction, maintenance and operation of injection wells and other subsurface disposal systems to prevent such groundwater contamination. Therefore, it is in the public interest that the following regulations be enforced pursuant to the authority of Chapter 42-17.1 and Chapter 46-12 of the Rhode Island General Laws.

Section 2: Definitions

- 2.01 Aquifer - a geologic formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.
- 2.02 Director - the Director of the Department of Environmental Management or any designee.
- 2.03 Disposal - discharge, deposit, injection, dumping, spilling, leaking, or placing any waste into or on any land.
- 2.04 Domestic Sewage - wastewaters originating from residential dwellings and consisting primarily of human and household wastes.
- 2.05 Facility - any injection well, either state, privately or federally owned, or any other structure or equipment subject to the provisions of these rules and regulations.
- 2.06 Fluid - any material or substance which flows or moves whether in a semi-solid, liquid, sludge, gas, or any other form or state.
- 2.07 Formation - a mappable unit of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity.
- 2.08 Groundwater - water below the land surface in a zone of saturation.
- 2.09 Hazardous Waste - defined as in the Rhode Island Hazardous Waste Management Act (Title 23 Chapter 19.1).
- 2.10 Person - an individual, trust, firm, joint stock company, corporation (including a quasi-government corporation), partnership, association, syndicate, municipality, municipal or state agency, fire district, club, non-profit agency or any subdivision, commission,

department, bureau, agency or department of state or federal government (including quasi-government corporation) or of any interstate body.

- 2.11 Pollution - the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.
- 2.12 Public Water System - a system providing the public with piped water for human consumption; provided such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily for at least 60 days out of the year.
- 2.13 Underground Source of Drinking Water (USDW) - an aquifer or its portion which:
 - a) (1) supplies any public water system; or
 - (2) contains a sufficient quantity of groundwater to supply a public water system; and
 - i. currently supplies drinking water for human consumption; or
 - ii. contains fewer than 10,000 mg/l total dissolved solids.
- 2.14 Well - a bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension.
- 2.15 Well Injection - the subsurface emplacement of fluids through a well.

Section 3: Application

- 3.01 These rules apply to injection wells, subsurface disposal systems of a non-domestic nature and multiple dwelling, community or regional systems for the injection of domestic wastes. These rules do not apply to injection wells or subsurface disposal systems used to dispose of individual or single family residential domestic waste.
- 3.02 These rules do not apply to the disposal of domestic waste discharged to a subsurface disposal system except in the case of utilization of a well, septic tank or cesspool or any other means which meets the definition of a bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension.

Section 4: Effective Date and Notification

- 4.01 These rules shall be effective when adopted by the Director and filed in the Office of the Secretary of State pursuant to Chapters 42-17.1 and 46-12 of the General Laws of Rhode Island of 1956, as amended.

- 4.02 Any person operating a system to inject fluid into the ground at the time of the effective date of these rules and regulations shall notify the Director of the existence of such system and shall have one (1) year from the effective date of these rules and regulations to apply for the necessary order of approval.

Section 5: Prohibitions

- 5.01 No person shall install, construct, alter, repair or cause to be installed, constructed, altered, or repaired any Class I, II, III or IV injection wells as defined in 11.01.
- 5.02 No person shall dispose of hazardous waste into any other subsurface disposal system unless it is in accordance with the Hazardous Waste Management Facility Operating Rules and Regulations pursuant to the General Laws of 1956, Chapters 42-35, 42-17.3 and 23-19.1.
- 5.03 No person shall operate any facility which:
- (a) pollutes or endangers the groundwater quality of the State; or
 - (b) violates any rule, regulation or standard of any Federal or State agency.

Section 6: Orders of Approval

- 6.01 No person shall inject fluid into the ground unless such person has first obtained an order of approval from the Director.
- 6.02 No person shall install, construct, alter, repair, or cause to be installed, constructed, altered, or repaired, any injection well until such person has obtained written approval of the plans and specifications of the work from the Director.
- 6.03 No person shall dispose of fluid through other means of subsurface disposal unless such person has first obtained an order of approval from the Director.
- 6.04 No person shall install, construct, alter, repair, or cause to be installed, constructed, altered, or repaired, any subsurface disposal system used to dispose of waste of a non-domestic nature until such person has obtained written approval of the plans and specifications of the work from the Director.

Section 7: Conditions for Approval

- 7.01 An order of approval shall be obtained by providing the Director with plans, specifications, sample analysis for priority pollutants and other information that is required to establish affirmative evidence that the facility for which the application is being made will be in compliance with the rules and regulations that are lawfully prescribed under Chapters 42-17.1, 46-12, and 23-19.1.
- 7.02 An order of approval shall be granted only for those facilities which the applicant can show by a preponderance of evidence, will be located, designed, constructed and operated so as to prevent the following:
- a) pollution or endangerment of the groundwater quality in the State,
 - b) violation of any rule or regulation or standard of any Federal or State agency.

Section 8: Order of Compliance

- 8.01 If any person is found by the Director to be in violation of these regulations, the Director shall make his findings in writing to that effect and shall enter an order directing such person to cease discharging and close the injection well or to adopt, use, or to operate properly, as the case may be some practicable and reasonably available system. Such order may specify the particular system or means to be adopted, used or operated. However, in the case where there is more than one such practicable and reasonably available system or means, such order shall give to the person violating these regulations the right to adopt or use such one of said systems or means as said person may choose.

Section 9: Approval of System Selected

- 9.01 The person against whom such order of compliance is entered shall, in a manner consistent with the provisions of these rules and regulations, submit to the Director a plan or statement describing the system or means which he proposes to adopt before proceeding to install any such system or means.
- 9.02 In case such person subsequently desires to make any substantial change in such system or means so adopted, he shall, before proceeding to do so, file with the Director a plan or statement describing such change.

Section 10: Proceedings for Enforcement

- 10.01 The Superior Court of Providence County shall have jurisdiction in equity to enforce the provisions of these rules and regulations or order issued pursuant thereto. Proceedings for enforcement shall be instituted and prosecuted in the name of the Director and in such proceeding in which injunctive relief is sought, it shall not be necessary for the Director to show that without such relief the injury which will result will be irreparable or that the remedy at law is inadequate.

Section 11: Injection Well Classification System

- 11.01 Injection wells shall be approved or prohibited according to the following system:

(a) Class I (Prohibited)

- 1) Wells used by generators or hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water.
- 2) Other industrial and municipal disposal wells which inject fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water.

(b) Class II (Prohibited) Wells which inject fluids:

- 1) Which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with wastewaters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.
- 2) For enhanced recovery of oil or natural gas; and
- 3) For storage of hydrocarbons which are liquid at standard temperature and pressure.

(c) Class III (Prohibited) Wells which inject for extraction of minerals including:

- 1) Mining of sulfur by the Frasch process;

- 2) In situ production of uranium or other metals; this category includes only in situ production from ore bodies which have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V.
- 3) Solution mining of salts or potash.

(d) Class IV (Prohibited)

- 1) Wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste into a formation which within one quarter (1/4) mile of the well contains an underground source of drinking water.
- 2) Wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste above a formation which within one quarter (1/4) mile of the well contains an underground source of drinking water.
- 3) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to dispose of hazardous waste, which cannot be classified under paragraphs (a)(1) or (d)(1) and (2) of this section (e.g., wells used to dispose of hazardous waste into or above a formation which contains an aquifer).

(e) Class V wells include:

- 1) Cesspools or other devices that receive wastes, which have an open bottom and sometimes have perforated sides. (The UIC requirements do not apply to single family residential cesspools.)
- 2) Dry wells used for the injection of wastes into a subsurface formation.
- 3) Septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank; or for a multiple dwelling, community or regional cesspool. (The UIC requirements do not apply to single family waste disposal systems.)
- 4) Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump.

- 5) Cooling water return flow wells used to inject water previously used for cooling.
- 6) Drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation.
- 7) Recharge wells used to replenish the water in an aquifer.
- 8) Salt water intrusion barrier wells used to inject water into a fresh water aquifer to prevent the intrusion of salt water into the fresh water.
- 9) Sand backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines.
- 10) Subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a nonoil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of freshwater.
- 11) Wells used for the storage of hydrocarbons which are gases at standard temperature and pressure.
- 12) Geothermal wells used in heating and aquaculture.
- 13) Nuclear disposal wells.