

**TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 650. UNDERGROUND INJECTION CONTROL [REVOKED]**

SUBCHAPTER 1. GENERAL PROVISIONS [REVOKED]

252:650-1-1. Purpose [REVOKED]

The rules in this Chapter implement 27A O.S. Supp. 1993, §2-6-701

252:650-1-2. Definitions [REVOKED]

The following words and terms, when used in this Chapter, shall have the following meaning, unless the context clearly indicates otherwise:

"Annulus" (plural "annuli") means the space in an injection or extraction well between a casing string and a tubing string, or between two casing strings, or between a casing string and the rock penetrated by the drill hole. References throughout OAC 252:650 will usually be to an annulus between the innermost of long string casing and the injection tubing.

"Application" means the standard state form(s) for applying for a permit, including any supplemental materials, additions, revisions, or modifications to the form(s).

"Aquifer" means a body of rock or soil that contains sufficient saturated permeable material to conduct groundwater and to yield said groundwater to wells or springs.

"Area of review" means the area within a two mile radius of an existing or proposed liquid non-hazardous waste injection well.

"Class I injection well" means a well for the subsurface emplacement of industrial or municipal wastes below the lowermost aquifer that contains, within one-half mile of the well bore, an underground source of fresh water.

"Contaminant" means any mineral, chemical, biological, or radiological substances or matter introduced by human activity or agency into water, air, soil or rock.

"Department" means the Department of Environmental Quality.

"Disposal" means the final disposition of industrial waste.

"Draft denial" means a document that evidences the Department's tentative decision to terminate a permit.

"Draft permit" means a document that evidences the Department's tentative decision to issue, modify, or reissue a permit.

"Environmental Protection Agency (EPA)" means the United States Environmental Protection Agency.

"Executive Director" means the Executive Director of the Department of Environmental Quality.

"Facility" means an installation for the disposal of industrial waste, including one or more injection wells and all appurtenant equipment, piping, impoundments, tanks and other structures.

"Formation" means a body of consolidated or unconsolidated rock, characterized by a degree of lithologic homogeneity, which is prevailingly, but not necessarily tabular, and is mappable on the earth's surface or traceable in the subsurface.

"Formation fluid" means fluid present in a formation under natural conditions, as opposed

to introduced fluids.

"Fresh water" means all waters that contain no more than 10,000 milligrams per liter (mg/l) total dissolved solids, and all waters that are present, or designated as potential, sources of drinking, livestock, or irrigation water.

"Groundwater" means water below the land surface in a zone of saturation.

"Hazardous waste" means waste materials and by-products that are to be discarded by the generator, which are toxic to life, and which are generated in such quantity that they cannot be safely disposed of in properly operated, state-approved sanitary landfills, or in waste or sewage treatment facilities. Hazardous waste may include but is not limited to explosives, flammable liquids, spent acids, caustic solutions, poisons, contained gases, sludge, tank bottoms containing heavy metallic ions, toxic organic chemicals, infectious materials, and materials such as paper, metal, cloth or wood which are contaminated with hazardous waste. Domestic sewage is specifically excluded from classification as hazardous waste.

"Industrial waste" means any waste generated as a result of an industrial or commercial process, procedure, or activity.

"Injection well" means a well into which fluids are or will be injected. An injection well shall be taken to include all casing, tubing, packers, and associated equipment and materials, up to the main injection cut-off valve at the well-head, and include all associated meters, gauges or devices (including but not limited to injection and annulus pressure, temperature, flow, pH, viscosity and specific gravity) used to monitor performance of the well regardless of the point of connection.

"Liquid non-hazardous waste" means waste that:

(A) contains less than eighteen percent (by weight) solids;

(B) is generated by any industrial, commercial, or municipal process, procedure, or activity; and

(C) is not designated as a hazardous waste. Liquid non-hazardous waste includes liquid forms of "other industrial waste" as defined by Solid Waste and Sludge Management Rules, OAC 252.500.

"One-hundred year flood plain" means the area adjoining a stream, river, watercourse, lake or other body of surface water that has been or may be inundated by a one-hundred year flood.

"Permit" means an authorization to dispose of liquid non-hazardous waste, issued by the Department to a facility in accordance with, and to ensure compliance with, this Chapter.

"Person" means any individual, corporation, industry, firm, partnership, association, venture, trust, institution, federal, state or local governmental instrumentality, agency or body or any other legal entity however organized.

"Plugging" means limiting or stopping the flow of fluids into or out of a formation or part thereof through a borehole or well which penetrates the formation, by way of obstructing the borehole or well with cement, clay, mechanical plugging devices, or some combination thereof.

"Potentially affected zone" means that area surrounding an injection well or injection well field in which the pressure change resulting from an injection operation may cause injected fluid, formation fluid, or a combination thereof to enter an underground source of fresh water.

"Site" means the surface area on which a facility is located.

"Stratum" (plural "strata") means a single bed or layer, regardless of thickness, that consists of generally the same kind of rock material.

"Surface impoundment" or **"impoundment"** means a part of a facility that is a natural topographic depression, man-made excavation, or diked area, formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquids, sludges, or semi-solids containing free liquids. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

"Surface water" includes but is not limited to water that stands on the surface of the land in reservoirs, lakes, ponds, sloughs, or swamps, or that flows across the land in rivers, creeks, or streams.

"Tank" means a self-supporting stationary device designed to contain an accumulation of wastes, and constructed primarily of non-earthen materials (e.g., concrete, steel, plastic), which provide structural support.

"Well" means a bored, drilled, driven, or dug hole or shaft, the depth or length of which is greater than its diameter (or, if not a round hole or shaft, greater than the largest diagonal or major axis of the surface opening).

"Zone of saturation" means a subsurface zone in which essentially all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain interstices filled with gas or liquids other than water, it is still considered saturated. This zone is separated from the zone of aeration by the water table, and is synonymous with phreatic zone.

252:650-1-3. Basis and authority [REVOKED]

~~OAC 252:650 is promulgated and adopted pursuant to 27A O.S. Supp. 1993, §2-2-101 and §2-6-701.~~

252:650-1-4. Applicability [REVOKED]

~~Any person who operates or proposes to operate any injection well facility for the disposal of liquid non-hazardous wastes shall be subject to OAC 252:650.~~

252:650-1-5. Permit [REVOKED]

~~Disposal of liquid non-hazardous waste shall be performed only at facilities that have valid permits issued by the Department.~~

252:650-1-6. Permit duration [REVOKED]

~~Permits issued under the authority of OAC 252:650 shall be effective on the date of issuance and shall remain in effect for five years thereafter. Said permits shall expire at the end of the five year period, unless the permittee submits an application for renewal to the Department at least ninety days prior to the date of expiration.~~

252:650-1-7. Exclusionary siting criteria [REVOKED]

~~(a) **Groundwater resources and recharge areas.** No permit shall hereafter be granted for a liquid non-hazardous waste disposal facility proposed to be located over or through~~

~~unconsolidated alluvium or terrace deposits, or over or through bedrock aquifers or their recharge areas as shown on the maps described as "Sheet 1 - Unconsolidated alluvium and terrace deposits" and "Sheet 2 - Bedrock aquifers and recharge areas" of the "Maps showing principal ground water resources and recharge areas in Oklahoma", compiled by Kenneth S. Johnson, Oklahoma Geological Survey (1983). Existing disposal sites in these areas may continue to operate and may modify capacity and treatment and disposal methods.~~

~~(b) **Water wells.** No permit shall hereafter be granted for a liquid non-hazardous waste disposal facility proposed to be located within one-quarter mile of any public or private water supply well.~~

~~(c) **Flood plain.** No construction permit shall hereafter be granted for a liquid non-hazardous waste disposal site proposed to be located within a one-hundred year floodplain, unless diking or building of platforms will prevent inundation and erosion of the site and leaching of contaminants from the site.~~

~~(d) **Surface water.** No construction permit shall hereafter be granted for a liquid non-hazardous waste disposal site proposed to be located within one-half mile of the conservation pool elevation of any reservoir which supplies water for a public water supply or within one-half mile of any scenic river.~~

~~(e) **Injection wells.** No construction permit shall hereafter be granted for a liquid non-hazardous waste injection well proposed to be located in any area where it would have an adverse or unpredictable effect on any existing Class I, II, or III injection well, or any oil or gas well.~~

252:650-1-8. Sources of fresh water [REVOKED]

~~Injection of wastes into or above an underground source of freshwater is prohibited.~~

252:650-1-9. Incorporation by reference [REVOKED]

~~(a) **Code of Federal Regulations.** When reference is made to the Code of Federal Regulations, 40 CFR 124 et seq. and 144 et seq., it shall mean (unless otherwise specifically provided) Procedures for Decision-Making and the Underground Injection Control Program (respectively), Monday, May 19, 1980 as amended through July 1, 1987.~~

~~(b) **40 CFR incorporation.** The following parts of 40 CFR are, unless otherwise specified, incorporated by reference in their entirety as they apply to the Underground Injection Control Program:~~

~~(1) Part 124.3. Application for a permit.~~

~~(2) Part 124.6 (a), (b), (d), & (e). Draft permits.~~

~~(3) Part 124.8. Fact sheet.~~

~~(4) Part 124.10. Public notice of permit actions and public comment period.~~

~~(5) Part 124.11. Public comments and requests for public hearing.~~

~~(6) Part 124.12 (a), (c) and (d). Public hearings.~~

~~(7) Part 124.13. Obligation to raise issues and provide information during the public comment period.~~

~~(8) Part 124.14. Reopening of the public comment period.~~

~~(9) Part 124.17 (a) and (c). Response to comments.~~

~~(10) Part 144.5. Confidentiality of information.~~

~~(11) Part 144.32. Signatories to permit applications and reports.~~

- (12) ~~Part 144.51. Conditions applicable to all permits.~~
- (13) ~~Part 144.52. Establishing permit conditions.~~
- (e) ~~**Synonymous terms.** For purposes of interfacing with 40 CFR 124 and 144 et seq., the following terms apply:~~
- (1) ~~**Administrator** is synonymous with **Executive Director.**~~
 - (2) ~~**Director** is synonymous with **Executive Director.**~~
 - (3) ~~**Regional Administrator** is synonymous with **Executive Director.**~~
 - (4) ~~**State** is synonymous with **Department.**~~
 - (5) ~~**Public hearing** is synonymous with **public meeting.**~~
- (d) ~~**Citations incorporated by reference.** When a provision of the Code of Federal Regulations is incorporated by reference, all citations contained therein are also incorporated by reference. The definition of terms contained in 40 CFR 124.2 shall apply unless the term is defined in Subchapter 1 of this Chapter~~
- (e) ~~**Inconsistencies or duplications.** In the event that there are inconsistencies or duplications in the requirements of those provisions incorporated by reference from 40 CFR 124 et seq. and 144 et seq., and the rules in this Chapter, the provisions incorporated by reference from 40 CFR 124 et seq. and 144 et seq., shall prevail except where the rules in this Chapter are more stringent.~~

SUBCHAPTER 3. CLASS I INJECTION WELL STANDARDS FOR NON- HAZARDOUS WASTES [REVOKED]

252:650-3-1. Minimum specifications for all Class I injection wells [REVOKED]

- (a) ~~**Water and resource protection.** An injection well shall be completed, equipped and maintained in a manner that will not degrade or endanger fresh water, or damage sources of oil or gas, or endanger other natural resources.~~
- (b) ~~**Disposal technique.** Disposal of liquid non-hazardous waste shall be through adequate tubing and below a packer, which shall be strategically set to isolate the waste receiving formation.~~
- (c) ~~**Annular space fluids.** The annular space between injection tubing and production casing shall be filled with a non-corrosive fluid and connected to a closed pressure tank containing a reservoir of non-corrosive fluid. The pressure tank shall be equipped with sensors or measuring devices to enable monitoring of the fluid level in the tank. Unless otherwise specified by the Department, the annulus fluid shall be maintained at a minimum positive pressure of 10 pounds per square inch - gauge at the well head.~~
- (d) ~~**Twenty-four hour monitoring.** The injection pressure at the well head, the flow rate, the annulus pressure, and the temperature of the injected fluid shall be monitored and recorded continuously (twenty-four hours per day, seven days per week) on either a circular or strip chart recorder. If the specific gravity of the injected fluid varies typically from 1.0, then the specific gravity shall also be monitored and recorded continuously. The operator shall maintain records accurately reflecting the volume of fluid injected on any given day.~~
- (e) ~~**Monthly reports.** The operator of an injection well shall submit a monthly operations report. This report shall contain representative copies of the charts or records that reasonably~~

reflect the injection and annulus pressures, the flow rate, temperature and, where appropriate, the specific gravity of the injected fluid which were encountered on any given day of the month. The operator shall maintain a permanent file of all charts and records obtained under this Subsection as a part of the permanent site records. Monitoring gauges and recorders shall be calibrated routinely and maintained in full operational condition so that they will accurately reflect the actual operating conditions of the injection well.

(f) **Monitoring taps.** Injection and annulus pressure monitoring taps shall be provided for the use of the Department. Such taps shall be connected near the locations on the well of the facility pressure monitoring recorders. The taps shall provide a one-fourth inch diameter National Pipe Thread female pipe fitting, valved and capped to prevent fluid loss when not in use. Said taps shall allow simultaneous pressure monitoring by facility pressure recorders and Department pressure gauges for comparison.

(g) **Injection fluid tests.** Injection fluids shall be analyzed with sufficient frequency, acceptable to the Department, to yield data representative of fluid characteristics. The physical, chemical, and other relevant characteristics of the injected fluids shall be submitted as part of the monthly reports required by 252:650-3-1(e) and shall remain a part of the permanent site records.

(h) **Maximum total pressure gradient.** The maximum total pressure gradient (applied injection pressure plus fluid pressure) in any injection well shall not exceed sixty-five percent of the established overburden pressure gradient, expressed in pounds per square inch per foot (psi/ft) of depth from ground surface to the top of the disposal zone. If the effective overburden pressure gradient is not established, the maximum total pressure gradient shall not exceed 0.65 psi/ft of depth from ground surface to the top of the disposal zone unless otherwise specified by the Department. The Department may adjust the permitted maximum injection pressure that can be applied at the well head to account for pressure loss due to friction in piping or tubing.

(i) **Tubing tests.** The tubing shall be tested at one hundred fifty percent of its maximum proposed operating pressure or 300 psi, whichever is greater, before operation of an injection well, and each five years thereafter. The operator of a non-hazardous injection well may request, one hundred eighty days prior to test date, the Department to approve equivalent alternative test procedures to insure mechanical integrity of the tubing.

(j) **Cement tests.** As a minimum requirement, the operator shall remove the tubing and packer from the well once each five years of operation and shall conduct tests (such as cement bond logs, temperature or noise logs, or tracer surveys) as necessary to insure the continued integrity of the cementing. The Department prefers that such tests be conducted no more than ninety days prior to submission of an application for permit or permit renewal, but the primary scheduling control shall be each five years of operation. The results of the most recent such tests shall be included with said application. The owner shall notify the Department at least seven days in advance of the time and date of such tests so that Department observers may be present. The operator of a non-hazardous injection well may request, one hundred eighty days prior to test date, the Department to approve equivalent alternative test procedures to insure mechanical integrity of the injection well.

(k) **Annulus tests.** The operator shall, upon notice by the Department, pressurize the annulus semi-annually to a minimum of 300 psi unless otherwise specified by the Department. The well shall be shut in and the annulus pressure monitored by the Department for pressure loss or gain.

~~(l) **Pressure fall off test.** A pressure falloff test shall be conducted semi-annually. The pressure fall off test shall be conducted by stabilizing the well to its normal operating injection pressure and flow rate, and then shutting in the well and continuously recording the pressure falloff. The pressure falloff test may be terminated when the well-head pressure changes no more than 3 psi in one hour, or at the end of twenty-four hours, whichever occurs first. Results of the pressure falloff test shall be submitted to the Department with the monthly report following completion of the falloff test. The results shall include the continuous chart recordings of the injection flow rate before the test, and the injection pressure before and during the test.~~

~~(m) **Solids or sludges tests.** Any solid materials or sludges produced by or resulting from pre-treatment, filtering, or storage of fluids to be injected shall be tested to determine whether they are hazardous wastes. Any hazardous waste identified by this testing shall be disposed of in accordance with the Department's Hazardous Waste Management Rules, OAC 252:200.~~

252:650-3-2. Plugging and abandonment [REVOKED]

~~Any well to be permanently abandoned shall be immediately plugged. Every well shall be plugged in such a manner to permanently prevent the migration of any disposed substances out of the disposal zone, as well as the migration of oil, gas, or salt water into or out of any productive formations by means of the well bore. As a minimum, plugging and abandonment of a well shall include the following elements:~~

~~(1) The plugging operator shall notify the Department of the exact time during which all plugging operations will take place. The Department may be present at plugging operations.~~

~~(2) Plugging shall be by a series of continuous cement plugs from the total depth of the well to ground level.~~

~~(3) The top of any plugged well shall clearly show the well permit number and date of plugging by permanent markings on a steel plate welded to the top of the casing remaining in the well.~~

~~(4) Within fifteen days after a well has been plugged, the owner or operator shall file a plugging record in triplicate with the Department.~~

~~(5) The owner shall submit, at least one hundred eighty days prior to cessation of operations, plans for the proper disassembly, decontamination and restoration of the site. After the Department approves these plans, they shall be implemented and completed within six months, unless otherwise specified by the Department.~~

~~(6) The plans submitted under (5) of this subsection shall include the following:~~

~~(A) — Methods for reconditioning, recycling, or disposal of all contaminated materials, residual liquids, sludges, soils, and ancillary equipment such as pumps, piping, tubing, and tanks.~~

~~(B) — Plans for proper closure of all permitted pits, ponds, and lagoons.~~

~~(C) — Plans for regrading the entire disposal site, including provisions for proper cover to prevent excessive runoff and erosion.~~

252:650-3-3. Permit requirements [REVOKED]

~~(a) **Application information.** The following shall be included in a permit application:~~

~~(1) The information required in 40 CFR 124.3.~~

~~(2) Plat certificates and any other records filed with the County Clerk or the Oklahoma Corporation Commission showing every oil, gas, water, irrigation or disposal well and every "dry hole" or other artificial penetration deeper than twenty-five feet within the area of review.~~

~~(3) Scale and schematic drawings of all proposed pre-treating and/or auxiliary surface equipment, including any backup, fail-safe or standby systems to be utilized in case of well failure.~~

~~(4) Schematic drawing illustrating in detail the proposed well construction including dimensions of well bore, casing, cementing, tubing and packer(s).~~

~~(5) Information on any proposed well testing programs such as any stimulation procedures, drill stem tests and/or injectivity testing.~~

~~(6) Narrative geologic, hydrologic, and engineering report on the proposed injection zone, including:~~

~~(A) Isopachous and structural maps of the injection zone.~~

~~(B) All available data from other wells in the area, including operational status and plugging records, as appropriate.~~

~~(C) A discussion of known or potential fluid flow directions and fluid distributions within the injection zone(s).~~

~~(7) Information regarding the physical integrity of all wells within the area of review that penetrate the injection formation.~~

~~(8) Two detailed stratigraphic cross sections showing all formations to be penetrated, both along the axis of the structure and normal to the axis. The cross sections shall cover an area large enough to depict both local and regional structure, shall show details of lithologies to be penetrated, and shall be referenced to the information required under 6 of this subsection.~~

~~(9) Information regarding potential adverse effects to any existing injection well. For the purpose of this Subsection, an existing injection well is defined to be an injection well either currently in operation, under construction, or one which has a complete application submitted to the Department for consideration. Should it be shown that such potential exists, the application shall be denied, except that the operator of the existing injection well may waive this requirement. To waive this requirement, the operator of an existing injection well shall indicate same to the Department in writing and shall certify the ability of his well to be operated in compliance with OAC 252:650.~~

~~(10) A complete plugging and abandonment plan constructed to accomplish the activities required in 252:650-3-2, including cost information for determining the amount of the surety bond required in 252:650-5-4. This plugging and abandonment plan shall be submitted in a form suitable for publication in a request for bid. Cost information shall be computed assuming that third party contractors (not the Department or the permittee) will perform all work.~~

~~(b) **Potentially affected zone.** The potentially affected zone shall be determined by consideration of injection pressure, volumes and characteristics of fluids to be injected, years of operation, and geological characteristics and shall in all cases include at a minimum the area within a one mile radius of each proposed well.~~

~~(c) **Injection zone waste capacity.** The applicant shall demonstrate with geologic, hydrologic,~~

and engineering data that the proposed injection zone is large enough and is sufficiently porous and permeable to allow injection of wastes at the proposed rate and volume.

~~(d) **Confining zone seal demonstration.** The applicant shall provide scientific data such as core permeability analyses, well logs, or other records to demonstrate that formations overlying the injection zone(s) will serve as seals to prevent movement of wastes from the injection zone(s) into sources of fresh water or into oil, gas, or other mineral resources. This demonstration shall assure that no pathways such as active faults or open fractures exist in the sealing formation(s) to allow injected wastes to migrate upward from the injection zone.~~

~~(e) **Final construction documentation.** The items noted below shall be submitted to the Department within thirty days of completion of an injection well constructed under a permit issued by the Department. The injection well shall not be operated, except for testing purposes, until the Department fully evaluates the information submitted hereunder and approves in writing operation of the well. The Department will subsequently modify the permit if necessary to reflect actual data and operational parameters determined by the construction of the well.~~

~~(1) Drawing of well (scaled vertically) showing:~~

~~(A) Total depth of well.~~

~~(B) — Depth and relative thickness of formations and lithologies penetrated.~~

~~(C) Depth and construction of all casings.~~

~~(D) Depth of packer(s).~~

~~(E) — Depth of top and bottom of all cemented areas, verified by a cement bond log.~~

~~(2) Geological/hydrological report on disposal zone:~~

~~(A) Depth to top and bottom of disposal zone.~~

~~(B) Porosity and permeability of disposal zone.~~

~~(C) — Compatibility with the industrial wastes to be injected.~~

~~(D) — Fluid pressure, temperature and fracture pressure of the disposal zone.~~

~~(E) — Results of any preliminary flow tests and stimulation practices; such tests shall be conducted using either fresh water or the formation waters encountered.~~

~~(F) Discussion of direction and distribution of flow within the zone.~~

~~(G) — Discussion of geologic anomalies, such as faults or caverns, which were not considered or anticipated by the permit application.~~

~~(3) Logs and Surveys including:~~

~~(A) — An electrical resistivity or induction log of the type determined best for the condition of the hole being logged (the log shall have a self potential curve and a single or multiple resistivity curve).~~

~~(B) — Driller's log.~~

~~(C) — Mechanically recorded drilling time log (geolograph or similar).~~

~~(D) — Temperature log.~~

~~(E) — A porosity log which shall have an S.P. or gamma-ray curve, and a bore hole caliper survey, which shall be accompanied by a micro-resistivity, interval transit time, compensated density, neutron, or other curve developing similar information regarding porosity and potential faulting.~~

~~(F) Gamma-ray/neutron log, if disposal zone is cased.~~

~~(G) — Electromagnetic thickness log and caliper log of the in-place casing.~~

(H) — Fracture finder log.

(I) — Bottom hole pressure test made in hole and disposal zone.

(J) — Noise logs.

(K) — Mud logs.

(4) Detailed lithological description of all formations penetrated and all core data obtained.

~~(f) **Updating application for permit.** After completion of the well, all data submitted in the application for permit shall be updated to reflect the new data obtained during well construction.~~

252:650-3-4. Construction and operation standards [REVOKED]

~~(a) **Demonstration of water resource protection.** The applicant shall provide the Department with sufficient information to demonstrate that operation of the proposed injection well(s) will not contaminate any source of fresh water or the surface of the land or improvements thereon, or damage any sources of oil, gas or other natural resources.~~

~~(b) **Well materials compatibility.** Tubing, casing, cement and all other construction materials coming in contact with the waste fluid shall be resistant to the corrosive effects of the waste.~~

~~(c) **Surface casing.** The surface casing shall extend from the surface down to at least fifty feet below the lowest aquifer that contains fresh water.~~

~~(d) **Annular space cementing.** All annular spaces between casings and between the casings and the bore hole shall be filled with cement circulated from the bottom of the hole to ground surface, unless otherwise specified by the Department. Measures such as cleaning and sandblasting casing(s) prior to installation, rotation of casing(s) during cementing, and placement of excess cement to prevent void spaces and channels, shall be implemented to assure good bonding of the cement to the casing(s) and the borehole.~~

~~(e) **Monitoring well.** At least one monitoring well shall be installed and maintained at the expense of the owner. The Department may require additional wells if they are deemed necessary to adequately monitor groundwater quality and level around the site. Specifications for the location, construction and maintenance of monitoring and/or observation holes must be approved by the Department prior to installation.~~

~~(1) Well(s) shall be sufficient to provide monitoring of the lowest fresh water aquifer beneath the site.~~

~~(2) Well(s) shall be arranged so that at least one well will be placed hydraulically down-gradient from the site.~~

~~(3) Unless otherwise specified by the Department, water samples shall be obtained and analyzed at least once each month and submitted as part of the monthly report.~~

~~(4) Upon issuance of permits, the Department will notify the operator of the parameters for which the samples shall be analyzed.~~

252:650-3-5. Dedication [REVOKED]

~~Upon permit approval, all facilities and equipment connected with the disposal operation as described in the permit application, whether on-site or off, shall be dedicated to the sole described use. This requirement shall not be taken to include highway or rail transport vehicles used to convey liquid non-hazardous waste to the facility from off-site generators. Transfer, other use, or sale of this equipment is prohibited unless written approval is obtained from the~~

Department. Such approval may be obtained only if the owner can show that said equipment is not contaminated and will not contaminate the environment in its future use, and that the absence of such equipment will not affect the operational safety of the site.

252:650-3-6. Life-time [REVOKED]

The owner shall submit a projected useful life for the injection well based upon that well's potentially affected zone, giving the facility's projected volume of injection, fluid type and all the geologic and hydrologic factors for that region:

(1) If the well is still in operation when the projected useful life ends, the owner must submit plans for immediate shut-down and follow abandonment and plugging procedures.

(2) If the well is operating effectively and within its permit limits at the end of the projected useful life, the owner may submit a revised life. This submittal should be received by the Department at least one hundred eighty days prior to the expiration of the previously projected date. The submittal shall include an explanation of the basis for the revision. An application for a revised well life-time expectancy shall require a permit modification.

SUBCHAPTER 5. PERMIT PROCEDURES [REVOKED]

252:650-5-1. Application procedure [REVOKED]

(a) ~~**Information required.**~~ An application for a permit or renewal shall, in addition to the application fee, include in triplicate:

(1) An application on a form supplied by the Department.

(2) Information addressing the restrictions set out in Subchapter 1 of OAC 252:650.

(3) For new permits, the supporting information required in Subchapter 3 of OAC 252:650 and in 40 CFR 122.4.

(4) For permit renewals, a summary of the operational history of the injection well(s) and information on any changes in construction or operation of the wells since the original application.

(b) ~~**Public notification.**~~ When the Department determines to issue a draft permit (and not a draft denial) upon an application, the applicant shall publish notice in accordance with the requirements of 252:650-5-3 offering forty-five days for the request of a public meeting upon the permit as described in the draft permit.

252:650-5-2. Modifications [REVOKED]

(a) ~~**Minor modifications.**~~ The Department may make minor modifications to a permit, either upon application by the permittee or on the Department's initiative. Minor modifications may only:

(1) Correct typographical errors.

(2) Accommodate minor changes to rules that do not substantively affect the facility.

(3) Allow for a change in ownership or operational control of a facility where the Department determines that no other substantive change in the permit is necessary.

(4) Allow for changes in quantities or types of fluids injected, where such changes are within the capacity of the facility as permitted and, in the judgment of the Department, would not

~~interfere with the operation of the facility or its ability to meet the conditions of the permit and would not change its classification.~~

~~(5) Change minor elements of the construction of a facility's injection well(s) and ancillary equipment and units, where such a change does not substantively alter the capacity of the well system as permitted, and does not interfere with the operation of the facility or impair its ability to comply with the permit.~~

~~(6) Amend a plugging and abandonment plan that has been updated to reflect changes in costs or in rules.~~

~~(b) **Minor modification procedures.** Applications for minor modifications may be made by letter submitted to the Department, with all supporting documentation needed for the Department to evaluate the application. Public notice is not required for minor modifications.~~

~~(c) **Major modifications.** The Department may make major modifications to a permit, either upon application by the permittee or on the Department's initiative. Major modifications comprise substantial material alterations to a permitted facility, and may include, for example:~~

~~(1) Construction of additional injection well(s).~~

~~(2) Substantial deepening, plugging back, or enlargement or reduction of injection well(s).~~

~~(3) Reconstruction of the facility. Reconstruction occurs when the capital investment in the cumulative changes to the facility exceeds fifty percent of the capital cost of the original facility adjusted for inflation.~~

~~(d) **Major modification procedures.** Major modifications shall be subject to the application procedures and public notice procedures required for applications for new permits.~~

252:650-5-3. Public notice [REVOKED]

~~Public notice shall be made in accordance with forms and instructions provided by the Department and shall be made by one publication in each of two newspapers in the area of the proposed facility that meet the requirements of 25 O.S. 1991, §106. In addition, notice shall be made by two broadcasts, one during the hours 8:00 a.m. to 12:00 noon and one during the hours 6:00 p.m. to 10:00 p.m., via a radio station whose primary broadcast area covers the area of the proposed facility.~~

252:650-5-4. Bonding requirements [REVOKED]

~~(a) **Bond amount.** Persons applying for permits or permit renewals must provide a surety bond in an amount adequate to assure payment of the costs of plugging and abandoning the disposal well(s) and closing the disposal facility as required in 252:650-3-2.~~

~~(b) **Bond life.** Operators must maintain a surety bond in effect for the entire life of the injection well disposal facility until or unless the well(s) is (are) closed in accordance with a closure plan approved by the Department in accordance with this Chapter.~~

~~(c) **Bond coverage.** The surety bond must specifically cover costs of:~~

~~(1) Dismantling the well(s).~~

~~(2) Performing any logging or other testing that might be necessary to assure integrity of the cement behind the long string casing(s).~~

~~(3) Perforating casing and "squeezing" cement, if needed, to remedy poorly bonded intervals of cement.~~

- (4) ~~Cementing the well(s) in stages from bottom (total depth of the well(s)) to ground surface.~~
- (5) ~~Placement of identifying steel plate on the well head casing.~~
- (6) ~~Decontaminating and/or properly disposing of tubing, packers, piping, pumps, tanks, and other well equipment.~~
- (7) ~~Properly closing all permitted pits, ponds, and lagoons.~~
- (8) ~~Proper disposal of any contaminated sludges, soils, liquids, or other materials generated by the closure of the wells and associated units.~~
- (9) ~~Regrading and revegetating the disposal site.~~
- (d) ~~**Bond submission.** The surety bond shall be submitted, in a form acceptable to the Department, prior to final issue of any permit.~~
- (e) ~~**Bond cancellation.** Bonds may not be canceled by the operator or the operator's surety without express written approval of the Department.~~

SUBCHAPTER 7. MISCELLANEOUS [REVOKED]

252:650-7-1. Fees for services [REVOKED]

- (a) ~~**Fees payable.** Fees should be made payable to Solid Waste Management, Department of Environmental Quality, and application fees must accompany the application, or the application will not be deemed to have been submitted.~~
- (b) ~~**Monitoring and renewal fees.** Monitoring and renewal fees for permits are payable and must be postmarked no later than sixty days from the invoice date. Delinquent renewals subject the underlying permits and permit holders to administrative sanctions.~~
- (c) ~~**Fee amounts.** The following fees apply to this Chapter:

 - (1) ~~Permit application - \$2,000.~~
 - (2) ~~Permit Renewal - \$500.~~
 - (3) ~~Facility monitoring - \$250 per year.~~
 - (4) ~~Fees will not be reassessed at time of transfer of ownership if units and EPA I.D. number remain unchanged.~~~~
- (d) ~~**Refunds.** Any permit application shall be entitled to a refund of 90% of the application fee if the Department receives notice of withdrawal within thirty days of submission of the application.~~

252:650-7-2. Incidents [REVOKED]

- (a) ~~**Spills, leakage, or discharges.** If an incident involving the spill, leakage, discharge to surface or groundwaters (outside the limits of a discharge permit), or other uncontrolled release of materials which are or become liquid non-hazardous waste arises, the owner, operator, or other responsible person shall immediately notify the Department. Soils and other matter which may be contaminated with such materials, and which are to be disposed of but cannot be safely disposed of in sewage treatment works or sanitary landfills become either liquid non-hazardous waste or, if tested as hazardous, become hazardous waste.~~
- (b) ~~**Zoning.** OAC 252:650 shall not abrogate in any way the zoning authority of any duly constituted zoning agency with respect to the siting of any site or facility.~~