

CHAPTER 43-02-05 UNDERGROUND INJECTION CONTROL

Section

43-02-05-01	Definitions
43-02-05-01.1	Application of Rules for Underground Injection Wells
43-02-05-02	Injection Into Underground Source of Drinking Water Prohibited
43-02-05-03	Exempted Aquifers
43-02-05-04	Permit Requirements
43-02-05-05	Siting
43-02-05-06	Construction Requirements
43-02-05-07	Mechanical Integrity
43-02-05-08	Plugging of Injection Wells
43-02-05-09	Pressure Limitations
43-02-05-10	Corrective Action
43-02-05-11	Bonding Requirements
43-02-05-12	Reporting, Monitoring, and Operating Requirements
43-02-05-13	Access to Records
43-02-05-13.1	Books and Records to Be Kept to Substantiate Reports
43-02-05-14	Area Permits

43-02-05-01. Definitions.

The terms used throughout this chapter have the same meaning as in chapter 43-02-03 and North Dakota Century Code chapter 38-08 except:

1. "Area of review" means an area encompassing a fixed radius around the injection well, field, or project of not less than one-quarter mile [402.34 meters].
2. "Underground injection" means the subsurface emplacement of fluids:
 - a. Which are brought to the surface in connection with natural gas storage operations, or 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.
 - b. For enhanced recovery of oil or natural gas.
 - c. For storage of hydrocarbons which are liquids at standard temperature and pressure.
3. "Underground source of drinking water" means an aquifer or any portion thereof which supplies drinking water for human consumption, or in which the ground water contains fewer than ten thousand milligrams per liter total dissolved solids and which is not an exempted aquifer.

History: Effective November 1, 1982; amended effective May 1, 1994.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-01.1. Application of rules for underground injection wells.

All underground injection wells are also subject to the provisions of chapter 43-02-03 where applicable.

History: Effective July 1, 1996.

General Authority: NDCC 38-08-04

Law Implemented: NDCC 38-08-04

43-02-05-02. Injection into underground source of drinking water prohibited.

Underground injection that causes or allows movement of fluid into an underground source of drinking water is prohibited, unless the underground source of drinking water is an exempted aquifer as provided in section 43-02-05-03.

History: Effective November 1, 1982.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-03. Exempted aquifers.

An aquifer or a portion thereof which meets the criteria for an underground source of drinking water may be determined by the commission, after notice and hearing, to be an exempted aquifer if it meets the following criteria:

1. It does not currently serve as a source of drinking water; and
2. It cannot now and will not in the future serve as a source of drinking water because:
 - a. It is mineral, hydrocarbon, or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for an underground injection permit to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible; or
 - b. It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical; or
 - c. It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or
3. The total dissolved solids content of the ground water is more than three thousand and less than ten thousand milligrams per liter and it is not reasonably expected to supply a public water system.

History: Effective November 1, 1982; amended effective January 1, 1997.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-04. Permit requirements.

1. No underground injection may be conducted, or site or access road construction commenced, without obtaining a permit from the director after notice and hearing. The application shall be on a form 14 or form provided by the director and shall include at least the following information:
 - a. The name and address of the operator of the injection well.
 - b. The surface and bottom hole location.
 - c. Appropriate geological data on the injection zone and the upper and lower confining zones including geologic names, lithologic descriptions, thicknesses, and depths.
 - d. The estimated bottom hole fracture pressure of the upper confining zone.
 - e. Average and maximum daily rate of fluids to be injected.
 - f. Average and maximum requested surface injection pressure.

- g. Geologic name and depth to base of the lowermost underground sources of drinking water which may be affected by the injection.
- h. Existing or proposed casing, tubing, and packer data.
- i. Existing or proposed cement specifications, including amounts and actual or proposed top of cement.
- j. A plat and maps depicting the area of review, (one-quarter-mile [402.34-meter] radius) and detailing the location, well name, and operator of all wells in the area of review. The plat and maps must include all injection wells, producing wells, plugged wells, abandoned wells, drilling wells, dry holes, permitted wells, water wells, surface bodies of water, and other pertinent surface features, such as occupied dwellings and roads.
- k. A review of the surficial aquifers within one mile of the proposed injection well site or surface facilities.
- l. A tabulation of data on all wells within the area of review that penetrate the proposed injection zone. Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and completion, and any additional information the director may require. A detail of any corrective action necessary for any of the wells not properly cemented or plugged to prevent the movement of fluid out of the injection zone must also be included.
- m. If faults are known or suspected, a cross section that includes a depiction of the fault at depth.
- n. Proposed injection program, including method of transportation of the fluid to the injection facility and the injection well.
- o. A tabulation of all freshwater wells and domestic freshwater sources within the area of review. Each freshwater well and domestic freshwater source must be identified by owner, location by quarter-quarter, section, township, and range, type of well or source, depth, and current status. A quantitative analysis from a state-certified laboratory of freshwater from the two nearest freshwater wells within a one-mile [1.61-kilometer] radius must be submitted. This requirement may be waived by the director in certain instances.
- p. Quantitative analysis from a state-certified laboratory of a representative sample of water to be injected. A compatibility analysis with the receiving formation may also be required.
- q. List identifying all source wells or sources of injectate.
- r. A legal description of the land ownership within the area of review in both tabular and plat form.
- s. An affidavit of mailing, and proof of service, certifying that all landowners within the area of review have been notified of the proposed injection well. A copy of the letter sent to each landowner must be attached to the affidavit.

If the proposed injection well is within an area permit authorized by a commission order, the notice shall inform the landowners within the area of review that comments or objections may be submitted to the commission within thirty days and must include a contact person and phone number for the applicant and a contact person and phone number for the commission.

If the proposed injection well is not within an area permit authorized by a commission order, the notice shall inform the landowners within the area of review that a hearing will

be held at which comments or objections may be directed to the commission, and written comments or objections to the application may be submitted prior to the hearing date, received by the commission no later than five p.m. on the last business day prior to the hearing date.

- t. An affidavit of mailing, and proof of service, certifying that all owners or operators of any usable oil and gas exploration and production well or permit within the area of review have been notified of the proposed injection well. A copy of the letter sent to each owner or operator must be attached to the affidavit.

If the proposed injection well is within an area permit authorized by a commission order, the notice must include the proposed surface and bottom hole locations of the proposed injection well and inform the owner or operator of any oil and gas exploration- and production-related well within the area of review that comments or objections may be submitted to the commission within thirty days and must include a contact person and phone number for the applicant and a contact person and phone number for the commission.

If the proposed injection well is not within an area permit authorized by a commission order, the notice must include the proposed surface and bottom hole locations of the proposed injection well and inform the owner or operator of any oil and gas production-related well within the area of review that a hearing will be held at which comments or objections may be directed to the commission, and that written comments or objections to the application may be submitted prior to the hearing date, received by the commission no later than five p.m. on the last business day prior to the hearing date.

- u. All logging and testing data on the well which has not been previously submitted.
 - v. Schematic or other appropriate drawings and tabulations of the wellhead and surface facilities, including the size, location, construction, and purpose of all tanks, the height and location of all dikes and containment, including a calculated containment volume, all areas underlain by a synthetic liner, and the location of all flow lines and a tabulation of any pressurized flow line specifications. It must also include the proposed road access to the nearest existing public road and the authority to build such access.
 - w. A schematic drawing of the well detailing the proposed well bore construction, including the size of the borehole; the total depth and plug back depth; the casings and tubing sizes, weights, grades, and top and bottom depths; the perforated interval top and bottom depths; the packer depth; the injection zone and upper and lower confining zones' top and bottom depths.
 - x. Traffic flow diagram of the site, depicting sufficient area to contain all anticipated traffic.
 - y. A detailed drilling prognosis, including a drilling, casing, cementing, logging, testing, and coring program, if applicable.
 - z. A detailed description of the proposed completion or conversion procedure.
 - aa. Any additional information necessary to demonstrate that injection into the proposed injection zone will not initiate fractures in the confining zone that could allow fluid movement out of the injection zone.
 - bb. Any other information required by the director to evaluate the proposed well.
2. Permits may contain such terms and conditions as the director deems necessary.

3. The corrective action plan for any well in the area of review which is not properly cemented or plugged to prevent the movement of fluid out of the injection zone must be incorporated into the permit as a condition if the plan is deemed adequate by the director. If the director deems the plan inadequate, the director shall require the applicant to revise the plan, prescribe a plan for corrective action as part of the permit, or deny the application. Before injection commences in an injection well, the applicant shall complete any needed corrective action on wells penetrating the injection zone in the area of review to the satisfaction of the director.
4. Any permit issued under this section may be revoked by the commission after notice and hearing if the permittee fails to comply with the terms and conditions of the permit or any applicable rule or statute. Any permit issued under this section may be suspended by the director for good cause.
5. Before a permit for underground injection will be issued, the applicant must satisfy the director that the proposed injection well will not endanger any underground source of drinking water.
6. No person shall commence construction of an underground injection well, site, or access road without prior approval of the director.
7. Permits are transferable only with approval of the director.
8. Permits may be modified by the director.
9. All injection wells permitted before November 1, 1982, shall be deemed to have a permit for purposes of this section; however, all such prior permitted wells are subject to all other requirements of this chapter.
10. A permit shall automatically expire one year after the date it was issued, unless operations have commenced to complete the well as an injection well.
11. If the permitted injection zone is plugged and abandoned, the permit shall expire and be of no further force and effect.

History: Effective November 1, 1982; amended effective May 1, 1992; May 1, 1994; July 1, 1996; May 1, 2004; January 1, 2006; April 1, 2014; October 1, 2016; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-05. Siting.

All injection wells shall be sited in such a fashion that they inject into a formation which has confining zones that are free of known open faults or fractures within the area of review.

History: Effective November 1, 1982; amended effective April 1, 2014.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-06. Construction requirements.

1. All injection wells shall be cased and cemented to prevent movement of fluids into or between underground sources of drinking water or into an unauthorized zone. The casing and cement used in construction of each new injection well shall be designed for the life expectancy of the well. A well to be converted to a saltwater disposal well must have surface casing set and cemented at a point not less than fifty feet [15.24 meters] below the base of the Fox Hills formation. In determining and specifying casing and cementing requirements, all of the following factors shall be considered:

- a. Depth to the injection zone and lower confining zone. Long string casing must be set at least to the top of the injection zone and cemented at least to the top of the upper confining zone, or to a point approved by the director.
 - b. Depth to the bottom of all underground sources of drinking water.
 - c. Estimated maximum and average injection pressures.
 - d. Fluid pressure.
 - e. Estimated fracture pressure.
 - f. Physical and chemical characteristics of the injection zone.
2. Appropriate logs and other tests shall be conducted during the drilling and construction of injection wells. Any well drilled or converted to an injection well shall have a log run from which the quality of the cement bond can be determined. Cement bond logs shall contain at least the following elements: a gamma ray curve; a casing collar locator curve; a transit time curve; an amplitude curve; and a variable density curve. A descriptive report interpreting the results of these logs and tests shall be prepared by a qualified log analyst and submitted to the commission if deemed necessary by the director.
 3. All injection wells must be equipped with injection tubing and a packer set in the long string casing within one hundred feet measured depth of the top perforation, or at a depth approved by the director.
 4. After an injection well has been completed, approval must be obtained on a sundry notice (form 4) or form provided by the director prior to any subsequent perforating.
 5. Surface facilities must be constructed pursuant to sections 43-02-03-53, 43-02-03-53.1, 43-02-03-53.2, and 43-02-03-53.3.

History: Effective November 1, 1982; amended effective May 1, 1992; July 1, 1996; May 1, 2004; January 1, 2006; April 1, 2018; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-07. Mechanical integrity.

1. Prior to commencing operations, the operator of a new injection well must demonstrate the mechanical integrity of the well. Prior to performing any workover project on an existing well, during which the packer or other means of annular isolation could be affected, the operator shall obtain approval from the director. All existing injection wells must demonstrate continual mechanical integrity and be tested at least once every five years. Following the completion of any remedial work, the operator shall demonstrate the mechanical integrity of the well. The director may require further mechanical integrity tests or other remedial work to ensure the mechanical integrity of the well to prevent the movement of fluid into an underground source of drinking water or an unauthorized zone. Mechanical integrity pressure tests must be performed at one thousand pounds per square inch [6900 kilopascals] for a minimum of fifteen minutes. A mechanical integrity test pressure of less than one thousand pounds per square inch [6900 kilopascals] may be approved by the director. Once an injection well is determined to lack mechanical integrity, within ninety days of the determination, it must be repaired and retested or plugged and abandoned.

An injection well has mechanical integrity if:

- a. There is no significant leak in the casing, tubing, or packer; and

- b. There is no significant fluid movement into an underground source of drinking water or an unauthorized zone through vertical channels adjacent to the injection bore.
- 2. One of the following methods must be used to evaluate the absence of significant leaks:
 - a. Pressure test with liquid or gas.
 - b. Monitoring of positive annulus pressure following a valid pressure test.
 - c. Radioactive tracer survey.
- 3. One of the following methods must be used to establish the absence of significant fluid movement:
 - a. A log from which cement can be determined or well records demonstrating the presence of adequate cement to prevent such migration.
 - b. Radioactive tracer survey, temperature log, or noise log.
- 4. The operator of an injection well immediately shall shut-in the well if mechanical failure indicates fluids are, or may be, migrating into an underground source of drinking water or an unauthorized zone, or if so directed by the director.

History: Effective November 1, 1982; amended effective May 1, 1990; July 1, 1996; May 1, 2004; October 1, 2016; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-08. Plugging of injection wells.

The proper plugging of an injection well requires the well be plugged with cement or other types of plugs, or both, in a manner which will not allow movement of fluids into an underground source of drinking water. The operator shall file a notice of intention to plug (form 4) or form provided by the director and shall obtain the director's approval of the plugging method prior to the commencement of plugging operations.

History: Effective November 1, 1982; amended effective May 1, 1992; May 1, 1994; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-09. Pressure limitations.

Injection pressure at the wellhead shall not exceed a maximum authorized injection pressure which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fracture or propagate existing fractures in the confining zones. In no case shall injection pressure initiate fractures in the confining zones or cause the movement of injection or formation fluids into an unauthorized zone or underground source of drinking water.

History: Effective November 1, 1982; amended effective May 1, 1992; April 1, 2018; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-10. Corrective action.

If any monitoring indicates the movement of injection or formation fluids into an unauthorized zone or underground sources of drinking water, the director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting as are necessary to prevent such movement.

History: Effective November 1, 1982; amended effective April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-11. Bonding requirements.

All injection wells must be bonded as provided in section 43-02-03-15. A commercial injection well is one that only receives fluids produced from wells operated by a person other than the principal on the bond.

History: Effective November 1, 1982; amended effective May 1, 1992; July 1, 2002; October 1, 2016.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-12. Reporting, monitoring, and operating requirements.

1. The operator of an injection well shall meter or use an approved method to keep records and shall report monthly to the director, the volume and nature, i.e., produced water, pit water, makeup water, etc., of the fluid injected, the average operating and maximum injection pressures, the maximum injection rate, and such other information as the director may require. The operator of each injection well shall, on or before the fifth day of the second month succeeding the month in which the well is capable of injection, file with the director the aforementioned information for each well in a format provided by the director.
2. Immediately upon the commencement or recommencement of injection, the operator shall notify the director of the injection date verbally and in writing.
3. The operator shall place accurate gauges on the tubing and the tubing-casing annulus. Accurate gauges shall also be placed on any other annuluses deemed necessary by the director.
4. The operator of an injection well shall keep the well, surface facilities, and injection system under continuing surveillance and conduct such monitoring, testing, and sampling as the director may require to verify the integrity of the surface facility, gathering system, and injection well to protect surface and subsurface waters. Prior to commencing operations, the saltwater disposal injection pipeline must be pressure tested. All existing saltwater disposal injection pipelines where the pump and the wellhead are not located on the same site are required to be pressure tested annually.
5. The operator of an injection well shall report any noncompliance with regulations or permit conditions to the director verbally within twenty-four hours followed by a written explanation within five days. The operator shall cease injection operations if so directed by the director.
6. Within ten days after the discontinuance of injection operations, the operator shall notify the director of the date of such discontinuance and the reason therefor.
7. Upon the completion or recompletion of an injection well or the completion of any remedial work or attempted remedial work such as plugging back, deepening, acidizing, shooting, formation fracturing, squeezing operations, setting liner, perforating, reperforating, tubing repairs, packer repairs, casing repairs, or other similar operations not specifically covered herein, a report on the operation shall be filed with the director within thirty days. The report shall present a detailed account of all work done, including the reason for the work, the date of such work, the shots per foot and size and depth of perforations, the quantity of sand, crude, chemical, or other materials employed in the operation, the size and type of tubing, the type and location of packer, the result of the packer pressure test, and any other pertinent information or operations which affect the status of the well and are not specifically covered herein.

8. Annular injection of fluids is prohibited.

History: Effective November 1, 1982; amended effective May 1, 1992; May 1, 1994; July 1, 1996; May 1, 2004; April 1, 2018; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-13. Access to records.

The industrial commission and the director shall have access to all injection well records wherever located. All owners, operators, drilling contractors, drillers, service companies, or other persons engaged in drilling, completing, operating, or servicing injection wells shall permit the industrial commission, or the director, to come upon any lease, property, well, or drilling rig operated or controlled by them, complying with state safety rules and to inspect the records and operation of wells and to conduct sampling and testing. Any information so obtained shall be public information. If requested, copies of injection well records must be filed with the commission or director.

History: Effective November 1, 1982; amended effective May 1, 1992; May 1, 1994; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)

43-02-05-13.1. Books and records to be kept to substantiate reports.

All owners, operators, drilling contractors, drillers, service companies, or other persons engaged in drilling, completing, operating, or servicing injection wells shall make and keep appropriate books and records for a period of not less than six years, covering their operations in North Dakota from which they may be able to make and substantiate the reports required by this chapter.

History: Effective September 1, 2000.

General Authority: NDCC 38-08-04

Law Implemented: NDCC 38-08-04

43-02-05-14. Area permits.

1. The director, after notice and hearing, may issue an area permit providing for the permitting of individual injection wells if the proposed injection wells are:
 - a. Within the same field, facility site, reservoir, project, or similar unit in the same state;
 - b. Of similar construction;
 - c. Of the same class; and
 - d. Operated by a single owner or operator.
2. An area permit application shall include at least the following information:
 - a. The name and address of the operator.
 - b. A plat and maps depicting the area permit and one-quarter mile [402.34 meters] adjacent detailing the location of all anticipated injection wells and the location, well name, and operator of all producing wells, saltwater disposal wells, injection wells, plugged wells, abandoned wells, drilling wells, dry holes, permitted wells, water wells, surface bodies of water, and other pertinent surface features, such as occupied dwellings and roads.
 - c. A review of the surficial aquifers within the proposed area permit boundary and one mile adjacent.

- d. Appropriate geological data on the injection zone and the upper and lower confining zones, including geologic names, lithologic descriptions, thicknesses, and depths.
 - e. Estimated fracture pressure of the upper confining zone.
 - f. Estimated maximum injection pressure.
 - g. Geologic name and depth to base of the lowermost underground source of drinking water which may be affected by the injection.
 - h. A reference well log, displaying at least a gamma ray curve, from a nearby well.
 - i. If faults are known or suspected, a cross section that includes a depiction of the fault at depth.
 - j. Proposed injection program, including method of transportation of the fluid to the injection facilities and wells.
 - k. List identifying all source wells or sources of injectate.
 - l. Quantitative analysis from a state-certified laboratory of a representative sample of water to be injected. A compatibility analysis with the receiving formation may also be required.
 - m. Legal description of the land ownership within and one-quarter mile [402.34 meters] adjacent to the proposed area permit in both tabular and plat form.
 - n. An affidavit of mailing, and proof of service, certifying that all landowners within the proposed area permit and one-quarter mile adjacent have been notified of the proposed area permit. A representative copy of the letters sent must be attached to the affidavit. The notice must inform the landowners that a hearing will be held at which comments or objections may be directed to the commission, and that written comments or objections to the application may be submitted prior to the hearing date, received by the commission no later than five p.m. on the last business day prior to the hearing date.
 - o. Schematic of the proposed injection system, including facilities and pipelines.
 - p. A schematic drawing of a typical proposed injection well bore construction, including the size of the borehole; the total depth and plug back depth; the casings and tubing sizes, weights, grades, and top and bottom depths; the perforated interval top and bottom depths; the packer depth; the injection zone and upper and lower confining zones' top and bottom depths.
 - q. Any other information required by the director to evaluate the proposal.
3. An area permit authorizes the director to approve individual injection well permit applications within the permitted area. The application shall be made in a format provided by the director and shall include at least the following information:
- a. The name and address of the operator of the injection well.
 - b. The surface and bottom hole location.
 - c. Average and maximum daily rate of fluids to be injected.
 - d. Existing or proposed casing, tubing, and packer data.
 - e. Existing or proposed cement specifications, including amounts and actual or proposed top.

- f. A plat and maps depicting the area of review (one-quarter-mile [402.34-meter] radius) and detailing the location, well name, and operator of all wells in the area of review. The plat, maps, or both must include all producing wells, saltwater disposal wells, injection wells, abandoned wells, drilling wells, plugged wells, dry holes, permitted wells, water wells, surface bodies of water, and other pertinent surface features, such as occupied dwellings and roads.
 - g. A review of the surficial aquifers within one mile of the proposed injection well site or surface facilities.
 - h. A tabulation of data on all wells within the area of review which penetrate the proposed injection zone. Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and completion, and any additional information the director may require. A detail of any corrective action necessary for any of the wells not properly cemented or plugged to prevent the movement of fluid out of the injection zone must also be included.
 - i. A tabulation of all freshwater wells and domestic freshwater sources within the area of review. Each freshwater well and domestic freshwater source must be identified by owner, location by quarter-quarter, section, township, and range, type of well or source, depth, and current status. A quantitative analysis from a state-certified laboratory of freshwater from the two nearest freshwater wells within a one-mile radius must be submitted. This requirement may be waived by the director in certain instances.
 - j. All logging and testing data on the well which has not been previously submitted.
 - k. A schematic drawing of the well detailing the proposed well bore construction, including the size of the borehole; the total depth and plug back depth; the casings and tubing sizes, weights, grades, and top and bottom depths; the perforated interval top and bottom depths; the packer depth; the injection zone and upper and lower confining zones' top and bottom depths.
 - l. A schematic or other appropriate drawings and tabulations of the wellhead and surface facilities, including the size, location, construction, and purpose of all tanks, the height and location of all dikes and containment, including a calculated containment volume, all areas underlain by a synthetic liner, the location of all flow lines, and a tabulation of any pressurized flow line specifications. It also must include the proposed road access to the nearest existing public road and the authority to build such access.
 - m. Traffic flow diagram of the site, depicting sufficient area to contain all anticipated traffic, if applicable.
 - n. A detailed drilling prognosis including a drilling, casing, cementing, logging, testing, and coring program, if applicable.
 - o. A detailed description of the proposed completion or conversion procedure.
 - p. Any additional information necessary to demonstrate that injection into the proposed injection zone will not initiate fractures in the confining zone that could allow fluid movement out of the injection zone.
 - q. Any other information required by the director to evaluate the proposed well.
4. The director is authorized to approve individual injection well permit applications within an area permit provided:
 - a. The additional well meets the area permit criteria.

- b. The cumulative effects of drilling and operating additional injection wells are acceptable to the director.
- 5. If the director determines that any additional well does not meet the area permit requirements, the director may modify or terminate the permit or take enforcement action.
- 6. If the director determines the cumulative effects are unacceptable, the permit may be modified.
- 7. Area and individual injection well permits may contain such terms and conditions as the director deems necessary.
- 8. The corrective action plan for any well in the area of review which is not properly cemented or plugged to prevent the movement of fluid out of the injection zone must be incorporated into the permit as a condition if the plan is deemed adequate by the director. If the director deems the plan inadequate, the director shall require the applicant to revise the plan, prescribe a plan for corrective action as part of the permit, or deny the application. Before injection commences in an injection well, the applicant shall complete any needed corrective action on wells penetrating the injection zone in the area of review to the satisfaction of the director.
- 9. Any permit issued under this section may be revoked by the commission after notice and hearing if the permittee fails to comply with the terms and conditions of the permit or any applicable rule or statute. Any permit issued under this section may be suspended by the director for good cause.
- 10. Before a permit for underground injection will be issued, the applicant must satisfy the director that the proposed injection well will not endanger any underground source of drinking water.
- 11. No person shall commence construction of an underground injection well, site, or access road until the director has issued a permit for the well.
- 12. Area and individual injection well permits are transferable only with approval of the director.
- 13. Individual injection well permits may be modified by the director.
- 14. Individual injection well permits shall automatically expire one year after the date issued, unless operations have commenced to complete the well as an injection well.
- 15. If the permitted injection zone is plugged and abandoned, the permit shall expire and be of no further force and effect.

History: Effective November 1, 1982; amended effective May 1, 1992; May 1, 2004; January 1, 2006; April 1, 2020.

General Authority: NDCC 38-08-04(2)

Law Implemented: NDCC 38-08-04(2)