
**Rules of
Department of Natural Resources
Division 50—Oil and Gas Council
Chapter 2—Oil and Gas Drilling and Production**

Title	Page
10 CSR 50-2.010 Organization Report.....	3
10 CSR 50-2.020 Bonds	3
10 CSR 50-2.030 Application for Permit to Drill, Deepen, Plug-Back or Inject.....	3
10 CSR 50-2.040 Drilling and Completion	5
10 CSR 50-2.050 Samples, Logs and Completion Reports	6
10 CSR 50-2.060 Plugging and Abandonment	7
10 CSR 50-2.070 Well Spacing	7
10 CSR 50-2.080 Monthly Reports.....	8
10 CSR 50-2.090 Disposal of Fluids by Injection.....	9
10 CSR 50-2.100 Fluid Injection Projects.....	9
10 CSR 50-2.110 Special Projects and Research Projects	9
10 CSR 50-2.120 Gas Storage Operations	10

**Title 10—DEPARTMENT OF
NATURAL RESOURCES**
Division 50—Oil and Gas Council
Chapter 2—Oil and Gas Drilling
and Production

10 CSR 50-2.010 Organization Report

PURPOSE: This rule provides for the filing of information that identifies those responsible for oil and gas exploration, producing or related industry activities regulated by the council. The organization report is required in order to properly process bonding, well permitting, producing, plugging and other council regulated activities and to make sure that the person making application is, in fact, authorized to represent a person, firm or corporation.

(1) Prior to start of operations, each person, firm or corporation engaged in oil or gas drilling, producing or transporting or engaging in projects developed for underground storage of hydrocarbons in natural formation or developed for disposal of water, nonusable gas or other waste accompanying the production of oil or gas, shall properly execute the prescribed organization report (form OGC-1) and submit same to the state geologist. Signatures as required on this form must be notarized. The report must be filed before bonding will be approved.

(2) After any change occurs as to facts stated in the report as submitted and filed, except change of ownership, a supplementary report shall be filed with the state geologist with respect to the change within thirty (30) days after the effective date of change.

(3) Upon change of ownership of any well(s), producing or nonproducing, notice shall be given to the state geologist within ten (10) days after the change of ownership.

Auth: section 259.070, RSMo (1986). Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. Amended: Filed Sept. 12, 1973, effective Sept. 22, 1973. Amended: Filed Sept. 10, 1979, effective Feb. 1, 1980.

10 CSR 50-2.020 Bonds

PURPOSE: Bonding is required of an operator before commencing oil or gas drilling or operations to insure compliance with the provisions of the rules of the council, specifically with reference to the proper plugging for abandonment of a well(s).

(1) Prior to commencement of oil or gas drilling or operations, the person, firm or corporation commencing drilling or operations shall make, or cause to be made, and file with the state geologist a good and sufficient bond for each well or hole and payable to the state of Missouri, conditioned for the performance of the duty to comply with all the provisions of the laws of the state of Missouri and the rules and orders of the Oil and Gas Council. This bond shall remain in force and effect until plugging of the well or hole is approved by the state geologist and is released by the state geologist, or a new bond is filed by a successor in interest and is released by the state geologist. Application for release of bond shall be made by letter to the state geologist who shall release the bond if the requirements of the law and regulations have been met. Bond will be required in the following amounts during the entire operation of the well:

SINGLE WELL BOND
Depth of Well

From	To	Amount
0'	500'	\$1000
501'	1000'	\$2000
1001'	2000'	\$3000
2001'	5000'	\$4000
5001'	—	\$5000
		plus \$1/ foot beyond 5001 feet

Refer to 10 CSR 50-2.070(1)(G) for non-commercial gas well bond amounts.

BLANKET WELL BOND
Depth of Well

From	To	Amount	Number of Unplugged Wells/bond
0'	800'	\$20,000	50 wells
801'	1200'	\$30,000	15 wells

(A) However, the blanket bond amount may be increased by the single well bond amount (which varies depending on the depth of the well—see Single Well Bond table) for every unplugged well in excess of the maximum allowable unplugged wells per blanket bond as shown in the Blanket Well Bond table.

(B) All wells permitted prior to the effective date of this regulation shall comply with these bonding requirements no later than January 1, 1990. All wells permitted on or after the effective date of this regulation shall comply with the previously mentioned bonding requirements prior to permit issuance.

(2) The bond shall be by a corporate surety authorized to do business in the state of Missouri and shall be submitted on form OGC-2. In lieu of a bond with a surety, an applicant may furnish to the council his/her own personal bond, secured by a certificate of deposit in an amount equal to that of the required surety bond. The personal bond shall be submitted on form OGC-2A. When the bond is filed, the state geologist shall immediately review the bond and if the bond is in proper form, the state geologist shall approve the bond with the conditions which may be required by the council or by rule. No drilling or operation shall commence or continue unless there is on file a bond approved by the state geologist.

(3) Personal bonds shall be subjected to the following conditions:

(A) The institution issuing the certificate of deposit must be insured by the Federal Deposit Insurance Corporation (FDIC) or the Federal Savings and Loan Insurance Corporation (FSLIC);

(B) Only automatically renewable certificates of deposit will be accepted; and

(C) Any interest on the certificates of deposit shall be made payable to the permittee.

Auth: section 259.070, RSMo (1986). Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. Amended: Filed Sept. 12, 1973, effective Sept. 22, 1973. Amended: Filed Sept. 10, 1979, effective Feb. 1, 1980. Amended: Filed Sept. 13, 1983, effective Dec. 11, 1983. Amended: Filed May 18, 1987, effective July 24, 1987. Amended: Filed Dec. 20, 1988, effective May 25, 1989.

10 CSR 50-2.030 Application for Permit to Drill, Deepen, Plug-Back or Inject

PURPOSE: This rule provides for information needed for the permitting of drilling of new wells or reworking existing wells and establishes procedures for the determination of their locations (distances from property lines, other producing wells, etc.), according to classifications of the well(s). It also establishes procedures to be followed by the state geologist in issuing or denying permits and legal recourse available to an applicant in case of denial. The rule further provides for the revocation of permits by the council after a hearing in the event that state laws or council rules have been violated, or if fraud, misrepresentation, etc., were used to initially obtain a permit.



- (1) Prior to commencement of operations, application for a permit must be made with the state geologist on form OGC-3 or OGC-3-I (for injection wells) as prescribed by the council. An organization report (form OGC-1) and bond (form OGC-2) must be on file in the office of the state geologist or must accompany the application.
- (2) An accurate location plat (form OGC-4) or (OGC-4-I, for injection wells—see section (3)) must accompany the application. The plat shall be drawn neatly and to scale and shall show the distance of the well from the nearest lease line and from the nearest producing, drilling or abandoned well on the same lease. The plat shall also show the distance from the two (2) nearest section lines to the well. Location plats shall be prepared by a registered surveyor. A confirmation well and/or additional development wells may be exempted from a registered survey at the discretion of the council. However, a well location map, as here and after described, may be substituted in lieu of the previously mentioned location plat. The applicant shall provide a well location map and well reference sketch prepared by a registered Missouri land surveyor. The well location map shall be drawn to a scale of one inch (1") equals one hundred feet (100'), one inch (1") equals two hundred feet (200') or one inch (1") equals four hundred feet (400'). A copy of the current ownership map maintained by the county tax assessor shall be acceptable. The location map shall show the approximate location of the well within the section or quarter section, the approximate distance to the nearest lease line or boundary line and the names of the owners of the property on which the well is located and all adjoining property. The well reference sketch shall show an accurate location of the well obtained by a registered Missouri land surveyor. Where possible, four (4) reference ties (bearing and distance preferred) to durable objects will be made to provide a permanent location of the well. The bearing reference shall be shown on the sketch. Durable objects include, but are not restricted to, house corners (fully describe), marks on concrete structures or pavement, marks on ledge or bedrock, trees and set monuments. The reference sketch shall show the approximate distance of the well from existing streets or boundary lines shown on the location map. It shall also show the house number of any houses shown on the sketch along with all street names. Both the location map and the reference sketch shall show a north arrow and a scale. All reference ties shall be in conformity with the current Minimum Standard for Property Boundary Surveys.
- (3) Upon application for an injection well, an accurate location plat (form OGC-4-I) must accompany the application. The plat shall be drawn neatly and to scale and shall show the distance of the well from the nearest lease line and from the two (2) nearest section lines to the well. If the well is drilled on acreage that has been pooled with other land, distance to nearest boundary of the pooled acreage must also be shown. The plat shall also show the area of review for the applicant well and all area of review wells of public record that penetrate the injection interval. Descriptions, of the area of review wells, that penetrate the injection interval shall be included on the back of the form OGC-4-I. These descriptions shall include lease name, well number, location, owner, depth, type (oil, gas, etc.), date spudded, date completed and construction of the wells. Each area of review well shall be uniquely marked or numbered.
- (4) A neat, accurate schematic diagram of the applicant injection well(s) and relevant surface equipment shall be submitted on form OGC-11 before application will be processed. This schematic diagram shall include the following: configuration of well head; total depth and/or plug-back total depth; depth of all injection or disposal intervals and their formation names; lithology of all formations penetrated; depths of the tops and bottoms of all casing and tubing; size and grade of all casing and tubing; type and depth of packer; depth, location and type of all cement; depth of all perforations and squeeze jobs; and geologic name and depth to bottom of all underground sources of drinking water which may be affected by the injection.
- (5) The applicant for an injection well(s) shall publish a notice of application in a newspaper of general circulation in the county in which the proposed injection well(s) will be located. The applicant shall submit a copy of the newspaper notice to the state geologist before the public hearing or administrative approval is granted. The notice shall include the name and address of applicant, location of proposed well(s), geologic name and depth of injection zone, a description of the need for the injection well(s) and the address of the office of the state geologist, where additional information may be obtained. There shall be a fifteen (15)-day written comment period (comments to be sent to the office of the state geologist). If within this period the state geologist determines that a significant degree of public interest is expressed, or other factors indicate the need for a public hearing, the state geologist may order a hearing. Public notice will be provided with a hearing date set for no sooner than thirty (30) days after the date of notice. If no public hearing is ordered, the application will be processed without further delay. A record will be kept of all written comments received and the responses to these comments.
- (6) Upon application, the state geologist may waive the initial requirement for a licensed survey for noncommercial gas wells (wells drilled for the sole purpose of furnishing gas for private consumption by the owner and not for resale or trade). A permit application (OGC-3) shall include a plat (OGC-4) which enables the state geologist to determine if minimum distance requirements to property or lease boundaries can be met before issuing a permit for drilling. If gas supplies are found to be present in sufficient quantities to be utilized, a licensed survey will then be required to ensure compliance with distance required before any production can be initiated. Any well shown by licensed survey to not meet minimum distance requirements shall not be approved for completion or production of gas.
- (7) An owner engaged in drilling development wells to depths no greater than eight hundred feet (800') may request that the state geologist approve prospective well locations on a blanket basis on a single lease. The request shall be accompanied by a plat of the entire lease, indicating the location of and identifying by number all wells which have been drilled or are proposed, using appropriate symbols to distinguish between them; the plat shall conform to the scale and distance requirements specified in section (2) of this rule. In the event the state geologist approves the blanket requests, the approved locations may be drilled in the owner's order of preference, provided that a permit application (OGC-3) for each well commenced shall be sent to the state geologist within twenty-four (24) hours after the commencement of drilling of each well.
- (8) An owner, company, firm or corporation engaged in drilling small diameter (less than five inch (5")) drill holes and core holes for stratigraphic purposes and which will not be used for the actual recovery of hydrocarbons, upon written request to the state geologist, may be granted permission to file individual well permit applications (OGC-3) and location plats (OGC-4) not later than three (3) days after the well has been drilled, and further may obtain a waiver of spacing requirements in 10 CSR 50-2.070, provided that—
- (A) An organization report (OGC-1) has been properly executed and approved according to 10 CSR 50-2.010;
- (B) Bonding has been executed and approved according to 10 CSR 50-2.020; and

(C) All other requirements in regard to drilling, plugging and abandonment are met.

(9) Upon application for a permit the state geologist shall review the application and, within fifteen (15) days, determine if the application is in proper form and if the requirements of the law and the rules are met. If the state geologist finds that the application is in good form and that the laws are being met s/he shall issue the permit. If s/he determines that either the application is not in proper form or that the law of the rules are not being met s/he shall deny the permit. If the state geologist finds that the drilling of a well at the proposed site would be an undue risk to the surface or subsurface environment, s/he shall deny the permit. If the state geologist determines that prior wells drilled by the operator have been abandoned and have not been plugged in an approved manner, s/he shall deny the permit.

(A) Upon denial of a permit, the applicant may appeal within thirty (30) days of the notice of the denial to the state council and a hearing shall be held as provided by law.

(B) After the hearing the council shall either issue the permit or deny the permit. If the council denies the permit an appeal may be taken to the circuit court as provided by law.

(10) Permits may be revoked by the council upon a finding after a hearing as provided by law that any provision of the law, rules or conditions of the permit have been violated or that any fraud, deceit or misrepresentation was made to obtain the approval of the permit. Appeals of any decision of the council may be taken as provided by law.

(11) Permits are not transferable to any other person, firm or corporation or to any other location.

(12) Unless operations to drill a single well are commenced within one hundred eighty (180) days after date of approval, the approval to drill will become null and void.

(13) Before commencing drilling operations, a drilling contractor engaged by an owner or operator for the drilling of a well shall confirm that an approved drilling permit has been obtained by the owner or operator. The drilling contractor's confirmation shall consist of the placement of his/her signature and date of signature, in ink, on the owner's approved permit. A drilling contractor shall not commence drilling operations unless an approved permit to drill the well has been obtained by the owner or operator and confirmed by the drilling contractor's signature.

(14) Prior to any substantial change or modification of the physical characteristics or method of operation of any well subject to these regulations, or change in the nature of wastes disposed of therein, the owner or operator of the facility shall submit a revised application form to the state geologist, identifying the well name, location, the proposed change and a full explanation of the nature of the change, to the state geologist. No modification or change in operation shall be commenced until the state geologist has reviewed and approved the written notification. The state geologist shall have a minimum of fifteen (15) days to respond to the notification and the fifteen (15)-day review period shall be suspended if additional information is necessary to effectively review the information. The term "substantial change or modification" shall mean any change in operation which may affect an underground source of drinking water, or otherwise alter the operation of the well so that its operation is not consistent with the existing permit.

Auth: sections 259.060, 259.070, 259.080 and 259.140, RSMo (1986). Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. Amended: Filed Sept. 12, 1973, effective Sept. 22, 1973. Amended: Filed Dec. 12, 1975, effective Dec. 22, 1975. Amended: Filed Sept. 12, 1978, effective Feb. 1, 1979. Amended: Filed Oct. 14, 1981, effective Feb. 11, 1982. Amended: Filed Dec. 15, 1986, effective April 11, 1987.

10 CSR 50-2.040 Drilling and Completion

PURPOSE: One of the important functions of the council is to prevent produced salt water from contaminating either surface or underground fresh water resources. When an oil or gas well is drilled, the bit usually penetrates fresh water strata at relatively shallow depths. This groundwater is commonly the only source of water for irrigation or for animal and human consumption. This rule provides procedures for protecting all fresh water and for acceptable safety standards for wells and surface installations so that the wild and uncontrolled flow of gusher wells or blowouts can be prevented. Plugging of wells when they are abandoned is consistent with a statewide effort to prevent contamination of water resources and would also be important should a given area prove to be productive as in secondary recovery activity.

(1) During the drilling of any well, surface casing will be set at the depth indicated on form OGC-3 or form OGC-3-I which has been approved by the state geologist and will be cemented from the setting depth to the surface. Before the bottom plug is drilled or before tests are initiated, the surface casing will stand cemented for the following periods of time: neat cement, for twenty-four (24) hours; neat cement with one percent (1%) CaCl₂, for twelve (12) hours; neat cement with two percent (2%) CaCl₂, for ten (10) hours; neat cement with three percent (3%) CaCl₂, for eight (8) hours; and neat cement with four percent (4%) CaCl₂, for six (6) hours. If other additives are to be used in the cement, the operator must contact the staff of the office of the state geologist for setting times appropriate for that particular cement.

(2) All wells drilled for oil, gas or injection shall be completed with a string(s) of casing which shall be properly cemented at sufficient depths to protect all water, oil or gas bearing strata and shall prevent their contents from passing into other strata. In the event wells are drilled with cable tools, temporary protective casing strings may be left uncemented. The specific casing and cementing requirements for injection wells shall be based on the depth to the base of the underground source of drinking water, the nature of the injected fluids and the hydraulic relationship between the injection zone and the base of the underground source of drinking water.

(3) In certain instances, 10 CSR 50-2.040(3) shall modify 10 CSR 50-2.040(1) as follows: In wells drilled to producing formations at a depth of no greater than eight hundred feet (800'), the state geologist may approve owner's request to set a single casing string and to cement the string by placing sufficient cement to fill annular space no less than approximately forty feet (40') above the top of the producing horizon.

(4) During drilling and following completion of wells, surface well and producing installations shall conform to accepted safety standards.

(5) Whenever operations shall cease for a period of ninety (90) days on any well, the owner or operator of the well shall give notice to the council and, if the council shall deem it necessary to prevent the pollution of any fresh water strata or supply, shall cause the well to be temporarily plugged in accordance with the rules of the council and under its direction. If the operations on any well are not recommenced within a period of six (6) months after notice has been given, the well shall be deemed a permanently abandoned well and

the owner or operator shall comply with the rules relating to the plugging and abandonment of wells. Provided, that upon application to the council prior to the expiration of the six (6)-month period and for good cause shown, the council may extend the period for an additional six (6) months and in like manner the council may grant additional six (6) month extensions, but the total time of such consecutive extensions shall not exceed two (2) years, unless a mechanical integrity test is performed as outlined in 10 CSR 50-2.040(6) and the well capped at the surface, before the end of the two (2)-year extension period. The council may then permit the well to remain inactive status for a maximum of five (5) years and if not returned to active status within this time the well must be plugged.

(6) All new or newly converted injection wells shall be required to demonstrate mechanical integrity as defined by 10 CSR 50-1.030(1)(O) before operation may begin. All wells not permanently plugged and abandoned must demonstrate mechanical integrity at least every five (5) years for the absence of significant leaks from the outermost casing and the absence of significant fluid movement in vertical channels adjacent to the well bore. Demonstration of the absence of significant leaks shall utilize at least one (1) of the following procedures: A pressure test with liquid or gas, monitoring of annulus pressure in wells injecting at a positive pressure following an initial pressure test or any other test(s) that the state geologist considers effective. Demonstration of the absence of significant fluid movement in vertical channels adjacent to the well bore shall utilize at least two (2) of the following procedures: Cementing records (reviewed only once for the life of the well), tracer surveys, noise logs, temperature surveys or any other test(s) that the state geologist considers effective.

(7) A maximum injection pressure for injection wells shall be established by the state geologist so that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the confining zone. The injection pressure also should not cause the injected fluid to migrate into an underground source of drinking water.

(8) All logs and other test data shall be sent to the state geologist before operation may begin. The state geologist shall inform the operator of a satisfactory or unsatisfactory demonstration of mechanical integrity by mail or telephone without delay.

(9) In order to insure that all existing injection wells are properly tested for mechanical integrity as required by federal regulation, at

least one-fifth (1/5) of each operator's injection wells drilled in Missouri prior to the State Underground Injection Control Program must demonstrate mechanical integrity as defined in 10 CSR 50-2.040(6) each year for the first five (5) years of the program. All injection wells, including new wells and newly converted wells must demonstrate mechanical integrity every five (5) years.

(10) If a well cannot demonstrate mechanical integrity the operator must cease operation of the well and immediately inform the state geologist. If corrective action cannot restore mechanical integrity within thirty (30) days after notification, the operator shall again notify the state geologist, who may grant an additional thirty (30) days before ordering the well to be plugged.

(11) The state geologist or an authorized representative shall have the authority to sample injected fluids at any time during injection operations.

(12) The operator is required to provide a one-fourth inch (1/4") female fitting, with cut-off valve, to the tubing to all wells drilled and completed as injection wells after the State Underground Injection Control Program is promulgated, so the injection pressure being used can be monitored by an authorized representative(s) of the state geologist. For wells that were injecting prior to promulgation of the State Underground Injection Control Program, the female fitting need not be added until the well is tested for mechanical integrity.

Auth: sections 259.060 and 259.070, RSMo (1986). Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. Amended: Filed Sept. 12, 1973, effective Sept. 22, 1973. Amended: Filed Oct. 14, 1981, effective Feb. 11, 1982. Amended: Filed Aug. 11, 1986, effective Oct. 27, 1986.

10 CSR 50-2.050 Samples, Logs and Completion Reports

PURPOSE: The objective of exploration is to locate reserves of oil and gas. To obtain this objective, the geologic history and the relationships of petroleum generation, migration and accumulation must be understood. Analyses of well cuttings and cores provide much information on the composition, age and original environment of deposition of the sediments and on fluid content and characteristics. Logging tools lowered into boreholes furnish information concerning the electrical, acoustical and

radioactive properties of rock-fluid systems throughout drilled intervals. This rule provides for filing of these data with the Oil and Gas Council for the future use of industry and government scientists and is of paramount importance in achieving new energy resources and for protection of the environment.

(1) Sample cuttings shall be taken at ten foot (10') intervals from the surface to total depth in all wells drilled for oil or gas, for geological information, for the storage of dry natural gas, or casinghead gas and for the development of reservoirs for the storage of liquid petroleum gas. Each sample shall be carefully identified as to well name and depth of sample and all samples shall be shipped at the owner's expense to the office of the state geologist. Samples shall be remitted to the state geologist at weekly intervals and shall be for his/her study and use and shall be considered confidential for a period of one (1) year when so requested by the owner in writing.

(2) During the drilling of, or immediately following the completion of, any well drilled as provided in section 10 CSR 50-2.050(1) of this rule the owner shall advise the state geologist of all intervals that are to be cored, or have been cored, and the cores as are taken shall be preserved, and if requested shall be forwarded to the state geologist at the owner's expense. In the event that it is necessary for the owner to utilize all or any portion of the core to the extent that sufficiently large and representative samples are not available for the state, the owner shall furnish the state geologist with the results of identification or testing procedures. The data shall be considered confidential for a period of one (1) year when so requested by the owner in writing.

(3) Within thirty (30) days of the completion of a well drilled for oil or gas, for geologic information, for gas storage, for the development of reservoirs for storage of liquid petroleum gas or for any injection purposes the owner will file with the state geologist properly executed form OGC-5. As an integral part of form OGC-5, the owner shall include complete logs or records of the well, including drilling time logs, electric logs, radioactive logs or other logs that may have been obtained during mechanical integrity testing. When more than one (1) type has been made, all shall be required. The data shall be filed with the state geologist for his/her study and use and shall be considered confidential for a period of one (1) year when so requested by the owner in writing.