



UIC Form U211

UIC General Permit GU08DG

UIC Approval Request for Domestic Geothermal Injection Wells

This form is used to apply for authorization to discharge to an injection well which is 1) less than 600 feet deep and 2) less than 35,000 gallons per day on a single residential or small commercial property for domestic heat pump or related purposes (regardless of groundwater temperature). Once both Parts are signed by the division, this form becomes the general permit to operate the injection well. This application form and subsequent approvals are authorized pursuant to Nevada Revised Statutes (NRS) 445A and UIC Regulation Nevada Administrative Code (NAC) 445A.810 – 445A.925.

The Applicant shall:

- 1. Obtain all necessary permits from the Nevada Division of Minerals and Nevada Division of Water Resources, as necessary.**
- 2. Complete Part I below and submit to the UIC program at the address above before injection well construction (faxed copy not accepted). Part I shall be completed by the property/well owner and a technical advisor.**
- 3. This form (U211) must be signed by the property/well owner.**
- 4. Submit application fee of \$200 with this form. No annual fees required for life of project.**
- 5. After the wells have been drilled, owner shall complete Part II and obtain NDEP's signature for Part II before injection begins.**
 (Note: permit will not be processed if forms incomplete/information not submitted, form not signed by property/well owner, and/or fee not received.)

Owner(s) Name					
Property Address		City		Zip	
Mailing Address		City		Zip	
Phone #		Fax # or eMail			
County		Lot Parcel Number			

Part I – UIC Program conditions for approval of domestic geothermal injection well

1. Pursuant to **NAC 445A.908, Location and construction of well. (for domestic geothermal use)**
 An injection well must be:
 - (a) Situated on a well-drained site not subject to inundation by local drainage (The well should not be in a local low-point subject to surface water accumulation at or around the wellhead).
 - (b) If necessary, sited in such a way that it injects into a formation which is separated from any underground source of drinking water by a confining zone that is free of known open faults or fractures within the area of review.
 - (c) Easily accessible for maintenance, repair, testing, or such other attention as may be necessary.
 - (d) Separated by a minimum horizontal distance of 50 feet from any water-tight conduit, e.g sewer lines.

- (e) Separated by a minimum horizontal distance of 100 feet from any septic tank, drain field or other facility for the collection or disposal of other liquid waste.
- (f) Separated by a minimum horizontal distance of 10 feet from the boundary of any adjoining property.
- (g) Cased from the finished surface to the top of the zone for injection and constructed so that no contamination can occur as a result of conditions on the surface surrounding the well.
- (h) Cemented (with neat cement or cement grout) to prevent movement of fluid into or between underground sources of drinking water. The casing and cement used in the construction of each injection well must be designed to endure for the life expectancy of the well.

2. The well must be drilled in accordance with Nevada water well (NAC 534), including NAC 534.362 for thermoplastic casing use, Minerals Commission regulations (NAC 534A) and underground injection control (NAC 445A.908) regulations;
3. The source well is producing groundwater from a similar depth and/or quality of water;
4. Well depth shall not exceed 600 feet under this permit, unless otherwise approved by the Division;
5. Injection activities shall not cause groundwater or injectate to surface or flood subsurface structure;
6. Injection activities shall not cause groundwater degradation;
7. Designed to ensure that known groundwater contamination is not spread by the direct injection of contaminated water or pushing contaminated water into other areas;
8. The wellhead shall be sealed and secured to prevent leakage from or into the injection well and wellhead;
9. The injection well seal (cement/grout material behind casing) should be placed as deep as possible;
10. **Extraction, conveyance and injection must be accomplished in a closed system.** The heat pump system must be a closed system, meaning water originates from the producing well, passes through the heat pump unit, and is sent directly to the injecting well without the introduction of foreign substances or chemicals;
11. Fluids other than those produced from the approved production well are prohibited from being injected into the injection well, including, but not limited to, surface water, chemicals, etc;
12. No other discharges or releases from the system are authorized by this letter, and if any occur, must be reported within 2 business days to the Division;
13. During operation, the owner/operator of the injection well shall comply with all provisions of the UIC regulations, Nevada Administrative Code (NAC) 445A.810 through 445A.925, and all other pertinent laws and regulations;
14. If the well is deemed abandoned, the well shall be plugged by the property owner in accordance with State Engineers requirements, NAC 534; and
15. In the event of any change in control or ownership, the Permittee shall notify the succeeding owner or controller of the existence of this permit, by letter, a copy of which shall be forwarded to the Division within 10 days of such change. All transfer of permits are required to be approved by the Division of Environmental Protection.

Form U211 must be signed and dated by the property/well owner for the application to be processed.

By signing below, the property owner is indicating:

1. The information below is true to the best of their knowledge,
2. You agree to comply with the requirements above,
3. If any changes are made that differ from what was submitted on Forms U211, the property owner shall contact NDEP a) prior to action occurring relating to construction and operation (e.g. changing location/construction of injection well) or b) transfer of property or similar action within 30 days, and
4. If not used for at least one year (NAC 445A.924), the well shall be properly plug.

Print Owner's Name

Owner's Signature

Date

Part I - An applicant shall submit the following information to NDEP UIC Program BEFORE well installation: (Provide the first six items on separate sheets of paper)

1. **Property/Site Map:** Attach a scaled map of the property(ies) on which the injection is proposed and the adjacent properties. The map should include the locations of the following:
 - a. All injection well(s) and production well(s) – existing and proposed ;
 - b. All major structures (i.e. buildings, streets, etc.) and property lines ;
 - c. All water wells (i.e. irrigation, drinking, monitoring, dewatering) and surface bodies of water on your property and the adjacent properties ; and
 - d. All septic systems and/or sewer lines on your property and the adjacent properties.
2. Well construction plans and drawings that include:
 1. Surface (wellhead) and subsurface construction details
 - i. Size of the drilled hole,
 - ii. Type of casing, including thickness, grade, etc
 - iii. Type and installation procedure for grout/cement.
 - iv. Show how wellheads will be secured to prevent:
 1. Leakage of surface water or other contaminants into or around well,
 2. Leakage of water from wellhead or casing, and
 3. Tampering by unauthorized persons.
3. Provide a description of heat pump or exchange system and its components, including process/treatment components, ports, valves and gauges, and pumps. Submit any manufacturer’s brochure for system components System type: ___ closed-loop ___ open-loop
4. **Provide information on any additive, chemicals or other foreign material that will be added to the geothermal heat pump system and the water flow. Describe any working fluid (e.g. Freon, propylene glycol, ethanol, other?) in the system. Or state no working fluids in system.**
5. Water quality sample (standard domestic drinking water analysis) that has been obtained from an on-site well. The sample and results may be submitted after construction if no well on-site. (Contact Nevada State Health Lab or other environmental lab that performs water quality analysis for instructions on how to collect a sample)
6. Number of Injection wells: _____ Number of Production wells: _____
7. Proposed date of injection well construction _____
8. Provide Nevada Division of Minerals application and permit (if received) for all production and injection wells.
9. Depth to groundwater (range): _____
10. Total Depth of injection well(s): _____
11. Screened interval of injection well(s): _____
Screened interval of production well(s): _____
12. Depth of injection well(s) seal or cement: _____

- 13. Estimated hours per day of injection: _____
- 14. Average and maximum injection pressure: _____
- 15. Average and maximum injection rate (gallons/minute): _____
- 16. Estimated cost to plug the well. _____

NDEP use only

NDEP staff has reviewed this application and hereby approves construction of injection well(s) for the property identified below.

UIC Staff

Date

Part II - Information to be submitted to NDEP UIC Program following well installation

- 1. **Water quality sample (standard domestic drinking water analysis) that has been obtained from an on-site well. The sample and results may be submitted after construction if no well on-site.**
(Contact Nevada State Health Lab or other environmental lab that performs water quality analysis for instructions on how to collect a sample)
- 2. **Well Driller’s Log for all production and injection wells; within 30 days of well completion.**

NDEP use only

NDEP staff has reviewed this application, all materials, and hereby approves injection into the well(s).

UIC Staff

Date