

**Permit Brief – Federal – Appendix F-5  
Underground Injection Control Permit  
U.S. EPA**

**Reason for Approval/Permit:** To construct and operate an underground injection well or wells involving subsurface injection of waste fluids below, into and above underground sources of drinking water. Injection includes seeping, flowing, leaching, and pumping, with or without added pressure.

**Permit Approval Authority:** U.S. EPA Region 9 Water Program, 75 Hawthorne St., San Francisco, CA 94105; Phone: 415-947-8707 (Region 9 Water Program); Phone: 800-426-4791 (Safe Drinking Water Hotline)

**References:** [40 CFR Part 144](#) – Underground Injection Control Program

**Fees:** None

**Permit Prerequisite(s):** None

**Websites**

- Pacific Southwest, Region 9 – Underground Injection Control  
<http://www.epa.gov/region09/water/groundwater/uic.html>
- Underground Injection Control Program  
<http://water.epa.gov/type/groundwater/uic/index.cfm>

Checklist	Estimated Time
Contact the U.S. EPA Ground Water Office to inform EPA of the injection activity in the planning stages of the project. EPA will make an initial determination as to whether a permit is required. <b>Contact information: (TBD IF POC ACCURATE)</b> David Albright, Manager of the U.S. EPA Ground Water Office Phone: 415-972-3971; Email: <a href="mailto:albright.david@epa.gov">albright.david@epa.gov</a>	
Submit a complete permit application to the EPA Regional Administrator. Permit application must include information on activities conducted by the applicant which require it to obtain permits under the Resource Conservation and Recovery Act (RCRA), Underground Injection Control (UIC), the National Pollutant Discharge and Elimination System (NPDES) program under the Clean Water Act (CWA), or the Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA).	--
EPA approves or denies permit application.	--
<b>Total Estimated Time from Application Acceptance</b>	<b>6 to 18 months</b>

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**Reporting Forms for 7520**

<http://water.epa.gov/type/groundwater/uic/reportingforms.cfm>

Reporting forms are how EPA report the information it needs to determine whether injection wells are operating properly and protecting public health. This link provides links to the UIC Program's reporting forms.

**Form 7520-6 – Class V Well**

<http://www.epa.gov/ogwdw/uic/pdfs/reportingforms/7520-6.pdf>

**Clarification / Guidance Permit Application for Class V Well - Form 7520-6**

<http://www.epa.gov/region4/water/uic/downloads/di/cl5clarification.pdf>

**Form 7520-16**

<http://www.epa.gov/ogwdw/uic/pdfs/reportingforms/7520-16.pdf>

**Notes:**

The UIC Program prevents contamination of underground sources of drinking water (USDWs) by regulating injection activities. The UIC regulations address activities throughout the life of an injection well, including siting, construction, operation and monitoring, and closure. These requirements are designed to prevent contaminants from moving into drinking water sources. There are UIC requirements specific to each class of well to address the uses of the wells and the potential threats to USDWs each may pose.

A Class I non-hazardous injection well is an industrial or municipal disposal well which injects fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water. An underground source of drinking water has a federal definition in 40 CFR 144.3. Class I wells require a federal UIC permit.

Class V wells are usually shallow wells which inject fluids into or above an underground source of drinking water. Class V wells can be for septic systems (for multi-dwellings, businesses, or communities), wastewater injection wells, geothermal related injection wells, drainage wells, cooling water return flow wells, dry wells, etc.

The Class V well owner or operator has to submit an EPA UIC Inventory of Injection Wells form (Form 7520-16) prior to construction of the well. These types of wells are authorized by rule, meaning they do not apply for a federal permit, but must comply with 40 CFR 144.79 – 144.89.

EPA has the authority to require a Class V injection well to obtain a federal UIC permit. The Ground Water Office makes that determination on a case by case basis.

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**Basic Information about Injection Wells**

<http://water.epa.gov/type/groundwater/uic/basicinformation.cfm>

**What is an injection well?**

An Injection well is a device that places fluid deep underground into porous rock formations, such as sandstone or limestone, or into or below the shallow soil layer. These fluids may be water, wastewater, brine (salt water), or water mixed with chemicals.

The UIC Program defines an injection well as:

- A bored, drilled, or driven shaft, or a dug hole that is deeper than it is wide,
- An improved sinkhole, or
- A subsurface fluid distribution system.

How an injection well looks (is constructed) depends on the fluid injected and the depth of the injection zone. For example, deep wells that inject hazardous wastes or carbon dioxide (CO<sub>2</sub>) into isolated formations far below the Earth's surface are designed to provide multiple layers of protective casing and cement. Shallow wells that inject into or above drinking water sources are usually of simple construction and inject non-hazardous fluids.

- Visit the [Classes of Wells](#) page for more on the various types of injection wells.
- [Technical Overview of the UIC Program \(PDF\)](#) (89 pp, 1.2 MB, [about PDF](#))

**What are injection wells used for?**

Injection wells have a range of uses that include long term (CO<sub>2</sub>) storage, waste disposal, enhancing oil production, mining, and preventing salt water intrusion. Widespread use of injection wells began in the 1930s to dispose of brine generated during oil production. Injection effectively disposed of unwanted brine, preserved surface waters, and in some formations, enhanced the recovery of oil. In the 1950s, chemical companies began injecting industrial wastes into deep wells. As chemical manufacturing increased, so did the use of deep injection. Injection was a safe and inexpensive option for the disposal of unwanted and often hazardous industrial byproducts. In 2010, the EPA finalized regulations for geologic sequestration of CO<sub>2</sub>. This final rule created a new class of wells, Class VI. Class VI wells are used solely for the purpose of long term storage of CO<sub>2</sub>.

- Visit the [History of the UIC Program](#) page for an overview of historical injection practices and regulatory development.

**How does the UIC Program categorize the different types of injection?**

EPA's regulations group injection wells into six groups or "classes." Classes I – IV and VI include wells with similar functions, construction, and operating features. This allows consistent technical requirements to be applied to each well class. Class V wells are those that do not meet the description of any other well class. Wells in Class V do not necessarily have similar function, construction, or operating features.

- The [Classes of Wells](#) page provides information on the six classes of injection wells.
- See drawings of [Typical Injection Wells](#).

**Why does EPA regulate injection wells?**

In 1974, Congress passed the Safe Drinking Water Act (SDWA). Part of SDWA required EPA to report back to Congress on waste disposal practices, and develop minimum federal

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requirements for injection practices that protect public health by preventing injection wells from contaminating underground sources of drinking water (USDWs).

- Visit the [Regulations](#) page for more information on SDWA and the UIC requirements for injection wells.

**What is a USDW?**

An underground source of drinking water (USDW) is an [aquifer](#) or a part of an aquifer that is currently used as a drinking water source or may be needed as a drinking water source in the future. Specifically, a USDW:

- Supplies any [public water system](#), or
- Contains a sufficient quantity of ground water to supply a public water system, and
  - currently supplies drinking water for human consumption, or
  - contains fewer than 10,000 mg/l total dissolved solids (TDS), and
- Is not an [exempted aquifer](#)

The UIC Program implements this protective mandate through the UIC regulations.

**How do the UIC regulations protect ground water?**

The UIC Program protects USDWs from [endangerment](#) by setting minimum requirements for injection wells. All injection must be authorized under either general rules or specific permits. Injection well owners and operators may not site, construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity that endangers USDWs. The purpose of the UIC requirements is to:

- Ensure that injected fluids stay within the well and the intended injection zone, or
- Mandate that fluids that are directly or indirectly injected into a USDW do not cause a public water system to violate [drinking water standards](#) or otherwise adversely affect public health.

For more information about how the UIC regulations protect ground water:

- Visit the [Regulations](#) page for more information on regulatory requirements.
- The [Class I](#), [Class II](#), [Class III](#), and [Class IV](#), [Class V](#) and [Class VI](#) web pages briefly describe the requirements for that well class.

**Who regulates injection wells in my state or tribe?**

Injection wells are overseen by either a state or Tribal Agency or one of EPA's regional offices. States and tribes may apply for primary enforcement responsibility, or primacy, to implement the UIC Program within their borders. In general, state and tribal programs must meet minimum federal UIC requirements to gain primacy. If a state or tribe does not obtain primacy, EPA implements the program directly through one of its regional offices.

EPA has delegated primacy for all well classes to 33 states and 3 territories; it shares responsibility in 7 states, and implements a program for all well classes in 10 states, 2 territories, the District of Columbia, and most Tribes.

- Visit the [Where You Live](#) page.
- page to find the contacts for your state.
- Visit the page on [UIC Program Primacy](#) for more information on how states, tribes, and territories can gain primacy for the UIC program.