



Water: Underground Injection Control

You are here: [Water](#) » [Our Waters](#) » [Ground Water](#) » [Underground Injection Control](#) » History of the UIC Program - Injection Well Time Line

History of the UIC Program - Injection Well Time Line

The use of injection wells was documented as early as A.D. 300. However, large-scale commercial use of injection wells in the U.S. began in the 1930s. Below is a timeline of UIC events.

Early Injection

- Injection for the extraction of salt starts in China in A.D. 300 and in France in the 9th century.

1930s

- The first documented project for the disposal of oil field brine (salt water produced along with oil and gas) into the originating formation began in Texas.
- Enhancing the recovery of oil by injecting water or other fluids into a formation to extract additional oil and gas begins.

1940s

- Oil refineries begin to inject liquid wastes.

1950s

- Chemical companies begin injecting industrial waste into deep wells.
- Many states establish regulations for the disposal of brine.

1960s

- Deep well injection in Colorado causes earthquakes.
- First documented cases of contamination of potential drinking water sources.

1970s

- Origin of waste spilling out of an abandoned oil well is traced to an injection well used by a paper mill some distance away.
- Congress passes the Safe Drinking Water Act (SDWA), giving EPA the authority to control underground injection to protect underground drinking water sources.
- EPA develops the Statement of Basis and Purpose for the UIC Program to support regulations. These documents (published in 1979 and in 1980) identify the technical reasons for developing the UIC program regulations.
- [Statement of Basis and Purpose for the UIC Program - 1980 Version \(PDF\)](#) (20 pp, 381K, [About PDF](#))
- [Statement of Basis and Purpose for the UIC Program - 1979 \(PDF\)](#) (16 pp, 304K, [About PDF](#))

1980s

- Federal UIC regulations are passed that define the five classes of injection wells and set minimum standards that state programs must meet to receive primary enforcement responsibility (primacy) of the UIC Program.
- Congress amends the SDWA to allow existing oil and gas programs to regulate, provided they are effective in preventing endangerment of USDWs and include traditional UIC Program components such as oversight, reporting, and enforcement.
- Congress passes the Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), requiring additional UIC regulations for deep wells injecting hazardous waste. In addition to making the requirements for these wells more stringent, the regulations require that each well operator provide a "no migration petition" that demonstrates that the hazardous waste will not be released from the injection zone for at least 10,000 years or will be rendered non-hazardous by natural processes.

1990s

- EPA issues an Administrative Order requiring the 10 major oil companies to close shallow motor vehicle waste disposal wells.
- In response to challenges by environmental groups, EPA develops a Class V management strategy that results in the [Class V Rule](#) (targeting [Motor Vehicle Waste Disposal Wells](#) and [Large-Capacity Cesspools](#)) and publishes the [Class V Underground Injection Control Study](#) (an evaluation of the remaining well types).
- The first international symposium on deep injection is held in Berkeley, California.

2000 to the present

- A rule to address [Class I Municipal Wells in Florida](#) was finalized.
- EPA determined that, based on existing information, no additional regulations for Class V wells are needed. Instead the agency develops a management plan to address any potential endangerment.
- The Energy Policy Act passed by Congress in 2005 amended SDWA to exclude hydraulic fracturing fluids (except diesel fuel) related to energy production from regulation under the UIC program. However, States may choose to regulate hydraulic fracturing.
- EPA published its [Study to Evaluate the Impacts to USDWs by Hydraulic Fracturing of Coalbed Methane Reservoirs](#).
- The UIC Program addresses challenges from new uses of injection wells:
 - Limiting carbon dioxide emissions through geologic sequestration
 - Managing treatment residuals from drinking water treatment plants
 - Increasing drinking water storage options through aquifer storage and recovery wells.

- In 2010, EPA finalized regulations for the Geologic Sequestration (GS) of carbon dioxide (CO₂) using the existing UIC Program regulatory framework modified with criteria and standards specific to GS, thus creating a new class of Wells; Class VI.

[Top of page](#)

Last updated on Friday, May 04, 2012