

Closure of an Injection System

Background

When an underground injection control system is not in use or abandoned, cannot be authorized by rule or permit, or is prohibited, the owner or operator must close the system. Oregon Administrative Rules for the state's Underground Injection Control Program specify closure requirements in OAR 340-044-0040. Other state and local requirements may also apply to closure of a UIC system, including Oregon Water Resource Department water well and other hole abandonment requirements for systems that are above or below the water table (OAR 690-220 and OAR 690-240 respectively). An owner must have written approval from DEQ before a system can be closed. A Water Pollution Control Facilities permit does not cover closure of a UIC system. The permittee must close the system as required below.

What if I don't formally close an injection system?

An owner or operator of a UIC system who fails to decommission a system in accordance with state and federal regulations is subject to state and federal enforcement action. An owner is also liable to a citizen lawsuit under the federal Safe Drinking Water Act.

What is a UIC system owner required to do?

An owner closing a UIC system must:

- Notify DEQ at least 30 days before intending to close the system by:
 - Filling out DEQ's UIC "Registration Pre-Closure Notification" form found at <http://www.deq.state.or.us/wq/uic/forms.htm> and include signature of owner or legally authorized representative and date.
 - Sampling the water and any sediment or sludge in the bottom of the UIC system.
 - Sending to DEQ the sample data, completed application, and fee of \$100 for each injection system being closed.
- Submit a closure plan, if required by DEQ, which includes sampling and investigation requirements. DEQ may require this plan after reviewing the pre-closure notification form and sampling data submitted with the form.
- Obtain written approval from DEQ before closing the system.
- Close the system within the timeframe specified in the authorization by rule letter.

- Submit a closure report to DEQ within 30 days after closing the system.

What sampling is required?

DEQ requires sampling of any water and sludge or sediment in the bottom of a UIC system. If the system has a sedimentation manhole or associated piping that is part of the closure, the water and sludge or sediment must be sampled to determine proper disposal of the material.

Sampling data is used to determine if pollutants have leached to groundwater or are present in underlying soils between the bottom of the system and the water table. Analytical results should be compared to applicable federal Drinking Water Maximum Contaminant Levels and DEQ's cleanup risk-based concentrations for industrial soil, groundwater leachability and tap water.

The sampling data and analyses DEQ requires depend on the type of system and potential pollutants. All samples must be analyzed using U.S. Environmental Protection Agency approved methods. Most UIC systems receive stormwater from an area with vehicle traffic and the pollutants listed below are typically found in these systems. DEQ expects analysis of the following pollutants, and other pollutants on a case-by-case basis based on the site's current land use, depth to groundwater or if hazardous or toxic materials have been or are being used at the site in reportable quantities.

- Total Petroleum Hydrocarbons for diesel range (TPH-Dx)
- Total Petroleum Hydrocarbons for gasoline range (TPH-Gx)
- Heavy oil and grease
- Toxicity Characteristics Leaching Procedure (TCLP) for the eight metals set to assess suitability for sludge disposal at a landfill.

DEQ may require further sampling depending on the initial sampling results.

What is an appropriate closure method?

For most closures, an injection system can be either excavated and removed or closed in place. If a system is closed in place, usually the top four to eight feet of the system is removed; fill material is then placed in the hole to fill all voids and to seal over the top of the hole. Using a fill material of 300 pounds per square inch Controlled Density Fill meets or exceeds Oregon



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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land, and water.

Water Resource Department abandonment requirements.

A system owner must properly dispose of soil, gravel, sludge, liquids, and other materials removed from the system at an appropriate facility. The disposal of any material from the closure of a UIC system must be done in accordance with federal, state and local hazardous and solid waste regulations.

What types of injection systems are prohibited and must be closed?

Prohibited injection systems are listed in OAR 340-044-0015 and include:

- *Cesspools* used to dispose of fluids, unless the system an existing system, includes a treatment facility such as a septic tank, and is specifically permitted under DEQ's onsite wastewater treatment system rules in OAR 340-071. If a cesspool is attached to a drywell, the drywell must be closed under DEQ's UIC regulations.
- *Motor vehicle wastes* from vehicle repair or maintenance activities, including fire station engine bay drains and fuel dispensing areas.
- *Direct discharges to groundwater* include a system in which a drywell with "wet feet" is installed into the water table, seasonal high water table, or penetrates a confined aquifer.
- *Agricultural drainage*
- *Sewage drain and drill holes* used to dispose of sewage, industrial, or commercial waste at a domestic or commercial site. Very few exceptions apply for continued use of an existing system under OAR 340-044.

What information is required in a closure report?

A UIC system owner must document procedures used to close the injection system. DEQ will not consider a UIC system closed until DEQ receives the closure report. UIC systems not requiring a closure report are systems only received roof drainage or domestic onsite system drainfields that only received domestic sewage.

All information required on DEQ's UIC "Registration and Pre-Closure Notification" form must be submitted. All log and analytical data required in the notification form and closure report must correlate to the site map and assigned UIC identification number.

The closure report must include the following:

- Name of the UIC system owner
- Existing land use of the site
- Date of closure
- Name of contractor or those who performed the closure

- Description of how the system was closed, including what materials were used to close the system
- Closure log showing the vertical depth of the UIC system and the vertical placement of the material used to close the system
- Copies of backfill material receipts
- Description of what samples were collected and at what depth, including chain-of-custody forms that document sample handling and transfer
- Summary of sampling data and analyses, including laboratory reports
- Description of how and where any materials removed from the UIC system were disposed of, and include the bill of lading from the facility that received the material and the bill of lading for disposal of the material
- If site is in cleanup, list DEQ regional contact information
- Existing type of pre-treatment, if any, associated with each UIC
- Photos and diagrams showing how the UIC system was closed
- A statement that the closure meets DEQ's closure requirements (OAR 340-044-0040) and Oregon Water Resources Department abandonment requirements (either OAR 690-240-0030 or 690-220-0030)
- The closure report must be certified by a registered State of Oregon licensed geologist, professional engineer with geotechnical expertise, or engineering geologist

For more information

Contact David Cole, DEQ regional hydrogeologist, Portland, at 503-229-6371, or call toll-free in Oregon at 1-800-452-4011, ext. 6371.

Further information on UIC system requirements is on DEQ's UIC website at <http://www.deq.state.or.us/wq/uic/uic.htm>

Alternative formats

Alternative formats (Braille, large type) of this document can be made available. Contact DEQ's Office of Communications and Outreach, Portland, at 503-229-5696, or call toll-free in Oregon at 1-800-452-4011, ext. 5696; fax to 503-229-6762; or email to deqinfo@deq.state.or.us

People with hearing impediments may call 711.

