



# Delaware Department of Natural Resources Underground Injection Control (UIC)

EXCHANGE NETWORK SUCCESS STORY

## What is Underground Injection Control?

Underground Injection Control (UIC) is a program under the Safe Drinking Water Act (SDWA) that regulates the use of injection wells that pump fluids into the ground. Injection wells are used by well owners and operators to dispose of waste, sequester carbon dioxide (CO<sub>2</sub>), prevent salt water

intrusion and dissolve and extract minerals in mining. The program categorizes injection wells into classes I-VI (see sidebar). The UIC program prevents endangerment of underground sources of drinking water by regulating the amount and types of fluid that facilities can place in the wells.

### *What are Class V Wells?*

Class V wells, located directly beneath the surface, collect primarily non-hazardous fluids. They include drainage wells that collect surface runoff from commercial paved surfaces, farmland and agricultural operations. Automobile service station disposal wells, cesspools and other septic systems are also class V. Class V wells are unique because the UIC Program does not require permits as a condition of their installation or operation.

### *Out with the Old, In with the New*

## Delaware's Solution Meets EPA and State Requirements and Keeps the Public Informed

A perfect storm of events occurred to make this project possible: Delaware's prior database was not meeting its needs; Delaware had to report UIC data to EPA; and an Exchange Network grant opportunity provided the funding that enabled Delaware to address both needs together. The Exchange Network is an internet-based approach for exchanging environmental data among partners. It enables participants to control and manage their own data while making it available to partners via requests over a secure internet connection.

Delaware's Department of Natural Resources and Environmental Control (DNREC) used an Exchange Network grant to design, develop and deploy a comprehensive database that centralizes environmental information, improves analysis and reporting,

Environmental Information

**exchange**  
Network

## CLASSES OF UIC WELLS

- **Class I** - Hazardous waste, industrial non-hazardous liquids or municipal wastewater
- **Class II** - Brines and other fluids associated with oil and gas production
- **Class III** - Fluids associated with solution mining of minerals
- **Class IV** - Hazardous or radioactive waste into or above underground sources of drinking water (USDWs)
- **Class V** - Non-hazardous fluids into or above USDWs
- **Class VI** - Carbon Dioxide for long term storage

## LEARN MORE

To learn more about Delaware Department of Natural Resources and Environmental Control's Environmental Navigator please contact:

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<http://>

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**DEN3/**

"Delaware was very eager to participate in the initial development of the Class V Exchange Network (EN) data base. The EN project timing coincided with Delaware's need to upgrade Delaware's UIC data base and to incorporate public access features into the data base, as required by Delaware Code. The project also allowed Delaware UIC staff to provide input on the UIC data model specific to Class V wells."

Ron  
Graeber,  
DNREC

### **Benefits of the Delaware Environmental Navigator**

- EN technology makes sending UIC data to EPA more efficient
- Eliminates submission of paper reports to EPA
- Contributes to EPA's effort to create a national database
- Enhances public access
- Provides data tracking and graphing capability
- Increases program effectiveness by providing the right data  
DNREC collects and provides the public tools to analyze it
- Reduces paper consumption- an additional environmental benefit

and increases public access. The system, called the Delaware Environmental Navigator, or DEN, replaces the state's less reliable Non-Hazardous Waste Site database.

It monitors regulatory compliance and supplies quality assurance data, ensuring well test validity. The modernized system also tracks violations found during facilities inspections, potential contamination sources, accidental wetlands releases, and water quality monitoring results. DEN promotes Agency transparency by making data accessible to the public.

DNREC designed DEN with users in mind. During development potential DEN users tested the system's functionality and features, delivering feedback to developers who used it to modify the system and create a user manual. DEN now helps users perform queries, graph data, and easily answer questions and concerns about the environment.

### *The Exchange Network Connection*

In addition, DNREC integrated Exchange Network technology and services into the DEN. The Department designed DEN to work seamlessly with the EN, allowing the state to report its UIC data to EPA and make its data available to other Network partners. Other states with Class V wells can use DEN's innovative approach for their own needs by using Delaware as an information resource.