

# **Geologic Sequestration Data Tool (GSDT)**

## Background

Under the Class VI Rule at <u>40 CFR 146.91(e)</u>, owners or operators of Class VI wells must submit geologic sequestration (GS) project information directly to EPA in an electronic format approved by EPA. This requirement applies regardless of whether the project is located in a state with primary enforcement responsibility (primacy) for Class VI wells.

EPA's Geologic Sequestration Data Tool (GSDT) is a centralized, web-based system that receives, stores, and manages Class VI data, to:

- Fulfill the requirement at 40 CFR 146.91(e);
- Facilitate data access, sharing, and technical evaluations of submitted materials;
- Develop and manage a comprehensive administrative record, consisting of all documents and communications supporting permitting decisions; and
- Ensure continuity over the potentially long lifespans of Class VI projects.

The GSDT provides a national, transparent, comprehensive, and cost-saving solution for Class VI data and records management.

### **Class VI Users and Data**

The GSDT is currently designed for two main groups of users; permit applicants/owners or operators and permitting authorities.

#### **Owners or Operators**

The Class VI Rule requires owners or operators to submit certain types of information during each phase of a GS project:

- The **pre-construction phase**, prior to well construction or conversion;
- The pre-injection phase, prior to operation;
- The **injection phase**, during which CO<sub>2</sub> injection operations occur; and
- The **post-injection phase**, including post-injection site care (PISC) and site closure.

Beginning with the permit application and continuing through the life of the project, owners or operators must submit materials related to:

- Site characterization and pre-injection logging and testing;
- Area of Review (AoR) modeling and corrective action;
- Well construction and operation;
- Financial responsibility demonstrations;
- **Testing and monitoring** during the injection and postinjection phases;
- Well plugging and site closure, including non-endangerment demonstrations; and
- Emergency and remedial response.



Class VI well schematic.



If applicable, owners or operators may also submit information related to alternative post-injection site care (PISC) timeframe demonstrations, injection depth waivers, and/or aquifer exemption expansion requests. Each of these categories of information must be evaluated both individually and in the context of the other types of submissions.

#### **Permitting Authorities**

Permitting authorities—primacy states and EPA regional offices—also generate information when permitting, managing, and overseeing Class VI projects. These materials may include:

- Permitting documents, including permit conditions and docket support materials;
- Reports generated during technical evaluation of materials submitted by permit applicants/owners or operators;
- Communications with owners or operators, such as responses to Notices of Deficiency (NODs) or Requests for Additional Information (RAIs);
- Public participation/outreach materials, including comment/response documents; and
- Compliance-related materials, including inspection and violation records.

#### **GSDT User Access**

All users access the GSDT at <u>https://gsdt.pnnl.gov/</u>, where they are directed to separate areas for owners or operators and permitting authorities.

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PA United States Environmental Protection Agency	
Welcome to EPA's Geologic Sequestration Data Tool !	
This system serves as the central location where nemers or operators of Class VI geologic sequestration (CS) web submit information projects. For more information, see the Class VI Rule at http://www.gop.gov/dbysplip/ER-2010-12-10/pdf2010-20054 pdf and consult http://submit/seque.gov/pub/promutesimal/cubmit/sequeddoc.clm.	n electronically, as required by 40 CFR 148 91(e), during the lifetime of their I EPN's Class VI guidance documents at
The GS Data Tool is not designed to receive confidential business information (CBI). If you would like to claim any information as CBI, instructions.	please contact your permitting authority for further information and
In order to submit information through this tool, you must complete, notarize and submit a hardcopy of the Electronic Signature and Us questions, please contact your permitting authority.	se Agreement to EPA at the address indicated on the form. If you have any
Project ID: Project Name: Current Project Phase: UnspecifiedPhase	
Select the desired reporting tool:	
<sup>8</sup> Project Information Tracking: this module allows users to enter basic project information and guides them through the submissio submitted prior to approval of injection operations (146.82(c)), and submissions associated with permit modifications (pursuant to 40	
OArea of Review and Corrective Action: this module (also known as the "input advisor") collects information on the computational corrective action information to support the requirements at 40 CFR 148.84. View user guide.	i model used for the AoR delineation and related site characterization and
© Financial Responsibility Demonstration: this module is used to submit information to support the financial responsibility demonstration about financial instruments. View user guide.	stration required at 40 CFR 146.85, including cost estimates and information
Operational Testing: this module supports the submission of geologic, hydrogeologic, and well-related data collected during to commencing injection pursuant to 40 CFR 145.82(c). View user guide.	the construction of a new well or during/after conversion of a Class VI well prior
O Project Plan Submissions: this module supports the submission of and updates to the Testing and Monitoring Plan (per 40 CFR Plan (per 145 93(a)), and Emergency and Remedial Response Plan (per 145 94(a)). View user guide.	145.90); Injection Well Plugging Plan (per 145.92(b)); PISC and Site Closure
©Atternative PISC Timeframe Demonstration: this module is used to submit an alternative PISC timeframe demonstration by own 146.93(c). View user guide.	ners or operators who opt to make this demonstration pursuant to 40 CFR
Injection Depth Waivers and Aquifer Exemption Expansions: applicants may use this module to submit an injection depth waive expansion request (pursuant to 40 CFR 145.4(d)). View user guide.	ver application (pursuant to 40 CFR 146.95) and/or an aquifer exemption
Onon-Endangerment Demonstration: this module is used to submit a domonstration, prior to receiving authorization for site dosu pose an endangerment to USDWs, pursuant to 40 CFR 148 93(b)(3). View user guide.	re, that no additional monitoring is needed to ensure that the project does not
Injection and Post-Injection Phase Reporting: this module is used to submit various reports required at 40 CFR 145.91 through post-injection phases, well plugging-related reporting, site closure-related reporting, and occasional notifications. View user guide.	146.94, e.g., testing and monitoring reports submitted during the operational and
Information Request: this module is used to respond to Requests for Additional Information, Notices of Deficiency, and other Class	ss VI reporting related inquiries from the permitting authority. View user guide.
LAUNCH REPORTING TOOL	

Owners or operators have access limited to their project site, which allows them to submit information. This group of users submits information via a series of topic-specific modules, accessed from a central landing page for their projects (see image at left).

Permitting authorities have full access, which allows them to access all the files and other information submitted via the modules. They can also use the tool to conduct technical evaluations, manage communications, and store all information related to a project. The GSDT allows permitting authorities to review and

Example project landing page.

manipulate information while preserving the integrity of the original submitted data.

#### **GSDT Modules**

All information submitted by permit applicant/owner or operator users is submitted via a series of modules that are designed to address certain components of Class VI data (AoR modeling, financial responsibility, etc.). Permit applicants/owners or operators can submit data using the following modules (see images on the following page):



- Project information tracking;
- AoR and corrective action;
- Financial responsibility demonstration;
- Pre-operational testing;
- Project plan submissions;
- Alternative PISC timeframe demonstration;
- Injection depth waivers and aquifer exemption expansions;
- Non-endangerment demonstration;
- Injection and post-injection phase reporting; and
- Information requests.

Depending on the topic and the type of data that must be submitted, some modules (such as the AoR and corrective action module) consist of fairly detailed proscriptive workflows to collect highly technical information. Others (such as the project

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Examples of GSDT modules.

plan submissions module) allow the user a great deal of flexibility in uploading required files and supplemental materials.

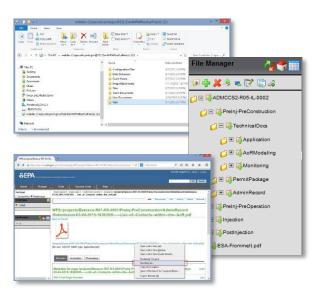
## **Permitting Authority Capabilities**

Permitting authority users have multiple options for viewing, downloading, and sharing files. When submissions are made, the designated permit writer(s) for a project will receive an email with a summary of the submission. The summary highlights any changes since the previous submission and includes links to uploaded files.

The version control features of the GSDT allow permitting authorities to more easily identify the most current version of a submitted file. Also, because all submissions are made through the tool, the tool supports the development of a comprehensive administrative record for a permitting decision.

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Automatic email notifications and versioning capabilities for permitting authorities.



Examples of options for accessing files.