Geologic Sequestration of Carbon Dioxide

Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors

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Disclaimer

The *Federal Requirements under the Underground Injection Control Program for Carbon Dioxide Geologic Sequestration Wells* (75 FR 77230, December 10, 2010), referred to as the Class VI Rule, establishes a new class of injection well (Class VI).

The Safe Drinking Water Act (SDWA) provisions and EPA regulations cited in this document contain legally-binding requirements. In several chapters, this guidance document makes recommendations and offers alternatives that go beyond the minimum requirements indicated by the Class VI Rule. This is intended to provide information and recommendations that may be helpful for UIC Class VI Program implementation efforts. Such recommendations are prefaced by the words 'may' or 'should' and are to be considered advisory. They are not required elements of the Class VI Rule. Therefore, this document does not substitute for those provisions or regulations, nor is it a regulation itself, so it does not impose legally-binding requirements on EPA, states or the regulated community. The recommendations herein may not be applicable to each and every situation.

EPA and state decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular facility will be made based on the applicable statutes and regulations. Mention of trade names or commercial products does not constitute endorsement or recommendation for use. EPA is taking an adaptive rulemaking approach to regulating Class VI injection wells. The agency will continue to evaluate ongoing research and demonstration projects and gather other relevant information as needed to refine the Rule. Consequently, this guidance may change in the future without a formal notice and comment period.

While EPA has made every effort to ensure the accuracy of the discussion in this document, the obligations of the regulated community are determined by statutes, regulations or other legally binding requirements. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

Note that this document only addresses issues covered by EPA's authorities under the SDWA. Other EPA authorities, such as Clean Air Act (CAA) requirements to report carbon dioxide injection activities under the Greenhouse Gas Mandatory Reporting Rule (GHG MRR), are not within the scope of this document.

Executive Summary

The U.S. Environmental Protection Agency (EPA) *Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide Geologic Sequestration Wells* found at 75 FR 77230, December 10, 2010, and codified in the U.S. Code of Federal Regulations [40 CFR 146.81 *et seq*.], are referred to as the Class VI Rule. The Class VI Rule establishes a new class of injection wells (Class VI) and sets minimum federal technical criteria for Class VI injection wells for the purposes of protecting underground sources of drinking water (USDWs).

The Safe Drinking Water Act (SDWA, 42 U.S.C. 300h et al.) authorizes EPA to review and approve UIC Program applications for primary enforcement responsibility (primacy) for the UIC Program. This *UIC Program Class VI Primacy Manual* outlines and describes the requirements for interested states, tribes and territories to develop a UIC Class VI Program and submit a primacy application to EPA for approval under SDWA Section 1422. This document contains the following sections:

- Section 1 presents background on the elements of the Class VI Rule and identifies various tools to support the primacy application process.
- Section 2 presents background on UIC Program Class VI primacy, including options for states applying for Class VI primacy.
- Section 3 presents the required elements of new UIC Program Class VI primacy applications.
- Section 4 presents the required elements of UIC Program Class VI primacy revision applications.

The appendices to this manual include EPA's standard operating procedures for primacy application reviews; a crosswalk for comparing federal and state Class VI requirements; a primacy application checklist; and sample letters and notifications as examples of primacy application elements, including a Memorandum of Agreement, a Memorandum of Understanding, an Attorney General's statement and a sample program description.

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Acronyms and Abbreviations

AoR	Area of Review
CCS	Carbon Capture and Storage
CFR	Code of Federal Regulations
DI	Direct Implementation
EPA	U.S. Environmental Protection Agency
FR	Federal Register
FTE	Full-Time Equivalent
GS	Geologic Sequestration
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
OECA	Office of Enforcement and Compliance Assurance (EPA)
OGC	Office of General Council (EPA)
OGWDW	Office of Ground Water and Drinking Water (EPA)
SDWA	Safe Drinking Water Act
SOP	Standard Operating Procedure
UIC	Underground Injection Control
USDW	Underground Source(s) of Drinking Water

Definitions

Key to definition sources:

1: 40 CFR 144.3.
2: 40 CFR 146.81(d).
3: 40 CFR 144.6(f) and 144.80(d).
4: EPA's UIC website (http://water.epa.gov/type/groundwater/uic/glossary.cfm).
5: This definition was drafted for the purposes of this document.
6: Class VI Rule Preamble (75 FR 77230).

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.[1]

Class VI wells are wells that are not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW; or wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at 40 CFR 146.95; or wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to 40 CFR 146.4 and 40 CFR 144.7(d).[3]

Geologic sequestration (GS) means the long-term containment of a gaseous, liquid or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.[2]

Geologic sequestration project means an injection well or wells used to emplace a carbon dioxide stream beneath the lowermost formation containing a USDW; or wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at 40 CFR 146.95; or wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to 40 CFR 146.4 and 144.7(d). It includes the subsurface three-dimensional extent of the carbon dioxide plume, associated area of elevated pressure and displaced fluids, as well as the surface area above that delineated region.[2]

Injection depth waiver refers to the provisions at 40 CFR 146.95 that allow owners or operators to seek a waiver from the Class VI injection depth requirements for GS to allow injection into non-USDW formations while ensuring that USDWs are protected from endangerment.[5]

Primacy (primary enforcement responsibility) means the authority to implement the UIC Program. To receive primacy, a state, territory or tribe must demonstrate to EPA that its UIC Program is *at least as stringent* as the federal standards; the state, territory or tribal UIC requirements may be more stringent than the federal requirements. (For Class II, states must demonstrate that their programs *are effective* in preventing pollution of USDWs.) EPA may grant primacy for all or part of the UIC Program, e.g., for certain classes of injection wells.[4]

Underground Injection Control (UIC) Program refers to the program EPA or an approved state is authorized to implement under the Safe Drinking Water Act (SDWA) that is responsible for regulating the underground injection of fluids by wells injection. This includes setting the minimum requirements for construction, operation, permitting and closure of underground injection wells.[5]

UIC Program Director refers to the chief administrative officer of any state or tribal agency or EPA Region that has been delegated to operate an approved UIC Program.[4]

Underground Source of Drinking Water (USDW) means an aquifer or its portion which supplies any public water system; or which 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; and which is not an exempted aquifer.[1]

1.0 Introduction

This manual describes the recommended approaches for attaining primary enforcement responsibility (primacy) for the Underground Injection Control (UIC) Class VI Program in accordance with the *Federal Requirements Under the Underground Injection Control Program for Carbon Dioxide Geologic Sequestration Wells* [75 FR 77230, December 10, 2010] otherwise referred to as the Class VI Rule. The Class VI Rule was promulgated under the authority of the Safe Drinking Water Act (SDWA). The Rule outlines the federal requirements for a new class of injection wells, Class VI. SDWA authorizes the U.S. Environmental Protection Agency (EPA) to review and approve state UIC Program applications for primacy [SDWA Section 1422(b)(2) and 40 CFR 145.31(d)]. This manual is intended to provide procedural support to UIC Program Directors preparing the required UIC primacy application materials to submit to EPA for approval.

Throughout this document, the terms "state" and "states" are used to refer to every type of primacy entity that may implement the UIC Program, including states, U.S. territories, Indian tribes and EPA Regional offices administering direct implementation (DI) programs. The term "UIC Program Director" refers to either: 1) the state Director or his/her authorized designee as identified in the state primacy submission or 2) the EPA Regional Administrator or his/her authorized designee responsible for directly implementing a UIC Program in a state, territory or tribal area without primacy (DI program).

1.1 Elements of the UIC Class VI Rule

The UIC Class VI Rule defines a new class of well, Class VI, to be used for the injection of carbon dioxide for the purposes of geologic sequestration (GS) [40 CFR 146.5(f)]. The Class VI Rule sets forth federal requirements for the permitting, siting, construction, operation, monitoring, plugging, post-injection site care and site closure of Class VI injection wells, including those re-permitted as Class VI wells from other injection well classes [40 CFR 146.82 *et seq*.]. Box 1 presents a brief overview of the requirements for Class VI injection wells, as found in 40 CFR 146 Subpart H. For specific, detailed information on the Class VI requirements, refer to the Class VI Rule and Preamble in the *Federal Register* [75 FR 77230, December 10, 2010].

States seeking to obtain Class VI primacy will need to develop regulations that ensure the protection of underground sources of drinking water (USDWs) with requirements for the permitting, siting, construction, operation, monitoring, plugging, post-injection site care and site closure of Class VI injection wells to ensure that GS projects are properly managed and do not endanger USDWs. State regulations must be at least as stringent as the federal Class VI requirements (see Sections 3 and 4 of this manual for additional information).

For information on issuing Class VI permits that meet the requirements of the Class VI Rule, see the *UIC Program Class VI Implementation Manual for State Directors* and the accompanying series of technical guidance documents for Class VI wells available on EPA's website at: http://water.epa.gov/type/groundwater/uic/class6/gsguidedoc.cfm.

Box 1: Overview of the Federal Class VI Rule Requirements

The Class VI permit information requirements establish the information that owners or operators must submit to obtain a Class VI permit [40 CFR 146.82].

The minimum criteria for siting establish that Class VI injection wells must be located in areas with a suitable geologic system, including a suitable injection zone that can receive the total anticipated volume of carbon dioxide and confining zone(s) to contain the injected carbon dioxide stream and displaced formation fluids [40 CFR 146.83].

The area of review (AoR) and corrective action provisions require computational modeling to delineate the AoR for proposed Class VI injection wells and require the preparation of and compliance with an AoR and Corrective Action Plan for delineating the AoR, performing all necessary corrective action, and periodically reevaluating the delineation and amending the Plan [40 CFR 146.84].

The financial responsibility requirements establish that owners or operators must demonstrate and maintain financial responsibility for performing corrective action on improperly abandoned wells in the AoR, injection well plugging, post-injection site care and site closure activities, and emergency and remedial response [40 CFR 146.85].

The injection well construction requirements specify the design and construction of Class VI injection wells using materials that are compatible with the carbon dioxide stream over the life of the GS project to prevent movement of fluids into USDWs [40 CFR 146.86].

The requirements for logging, sampling and testing prior to operation outline activities, including logs, surveys and tests of the well and formations, that must be performed before injection of carbon dioxide may commence [40 CFR 146.87].

The injection well operating requirements provide operational measures for Class VI wells to ensure that the injection of carbon dioxide does not endanger USDWs, along with limitations on injection pressure and requirements for automatic shut-off devices [40 CFR 146.88].

The mechanical integrity requirements specify continuous monitoring to demonstrate internal mechanical integrity and annual external mechanical integrity tests [40 CFR 146.89].

The testing and monitoring requirements define the elements that must be included in the required Testing and Monitoring Plan submitted with a Class VI permit application and implemented throughout operation of the injection well to demonstrate the safe operation of the injection well and track the position of the carbon dioxide plume and pressure front [40 CFR 146.90].

The reporting requirements establish the periodic timeframes and circumstances for the reporting of Class VI injection well testing, monitoring and operating results [40 CFR 146.91].

The injection well plugging requirements specify that a Class VI injection well must be properly plugged at the end of its operational lifetime to ensure that the well does not become a conduit for fluid movement into USDWs in the future [40 CFR 146.92].

The post-injection site care and site closure requirements address activities that occur following the plugging of Class VI wells. The owner or operator must continue to conduct monitoring for 50 years following the cessation of injection or for an approved alternative timeframe, until it can be demonstrated that the site no longer poses a risk to USDWs [40 CFR 146.93].

The emergency and remedial response requirements specify that owners or operators of Class VI injection wells must develop and maintain an approved Emergency and Remedial Response Plan that describes the actions to be taken to address events that may cause endangerment to a USDW or other resources [40 CFR 146.94].

The Class VI injection depth waiver requirements provide a process under which Class VI injection well owners or operators can seek a waiver from the injection depth requirements in order to inject carbon dioxide into non-USDWs that are located above or between USDWs. Including injection depth waiver provisions in a state regulation is optional [40 CFR 146.95].

1.2 Additional UIC Program Primacy Application Tools

To help states apply for UIC Program primacy for Class VI wells, EPA developed materials that can support states as they develop Class VI primacy applications. EPA also provided Class VI primacy and implementation training workshops to interested state, tribal and territorial UIC Program Directors, and will be updating the agency's website to include information specific to the Class VI Program. All of the tools discussed in this manual, as well as the materials used in the training workshops, will be available at http://water.epa.gov/type/groundwater/uic/wells_sequestration.cfm.

The primacy application tools available to UIC Program Directors include:

- EPA's Standard Operating Procedures (SOPs) for processing Class VI primacy application/program revision submittals. These describe the four general phases of the review and approval process, including: pre-application activities, determining the completeness of the application, evaluating the application for approval, and rulemaking and codification in 40 CFR Part 147. The SOPs will facilitate and help streamline the primacy application review and approval process by identifying the responsibilities of EPA's Office of Ground Water and Drinking Water (OGWDW) and Regional staff. The SOPs are presented in Appendix A of this manual.
- A Federal/State Class VI Comparison Crosswalk, presented in Appendix B of this manual. The crosswalk can be used to identify state Class VI UIC statutory and/or regulatory provisions that correspond to each federal requirement.
- A Primacy Application Checklist, included in Appendix C of this manual.
- Other templates, such as an example Memoranda of Agreement (MOA) between two state agencies (for new programs and states with existing UIC Programs), a Memorandum of Understanding (MOU) between EPA and the state, an Attorney General's statement, and a program description, which are found in Appendices D-H of this manual.
- Materials from EPA webcasts on Class VI primacy topics. These include presentation slides and notes from the Class VI Rule implementation workshops, held in early 2011 (Module 18 addresses applying for Class VI primacy), as well as presentation slides and notes from a June 2011 webcast on the SOPs and the Class VI Primacy Applications Website.

1.3 Organization of this Document

Following this introduction, this document is organized as follows:

- Section 2, UIC Program Class VI Primacy, presents background on UIC Program Class VI primacy, including options for states applying for Class VI primacy.
- Section 3, Required Elements of a New SDWA Section 1422 UIC Program Primacy Application: for States Currently without SDWA Section 1422 Primacy or States with SDWA Section 1425 Primacy for Class II Wells Only, presents the required elements of UIC Program Class VI primacy applications for new primacy applications.
- Section 4, Required Elements of a SDWA Section 1422 UIC Program Revision Application: for States Currently with SDWA Section 1422 UIC Program Primacy, presents the required elements of UIC Program Class VI primacy applications for program revisions.

2.0 UIC Program Class VI Primacy

The Safe Drinking Water Act mandates that EPA develop UIC Program requirements that protect USDWs from endangerment. Underground injection wells (including those in state territorial waters) are regulated by EPA's UIC Program under the authority of Part C of SDWA and through EPA's regulations found in 40 CFR Part 144 *et seq*.

Key components of SDWA Part C include:

- SDWA Section 1421, which requires EPA to propose and promulgate regulations specifying the minimum requirements for state programs to prevent underground injection that endangers drinking water sources.
- SDWA Section 1422, which provides that states may apply to EPA for primacy to administer the UIC Program and authorizes EPA to approve state programs and grant primacy. To be granted primacy under SDWA Section 1422, a state must, among other things, adopt UIC regulations that are at least as stringent as the federal requirements, as codified in 40 CFR Parts 144, 145 and 146, or adopt federal UIC requirements by reference or verbatim. A state program may impose more stringent requirements than the federal requirements.
- SDWA Section 1425, which authorizes EPA to approve state programs for Class II injection wells (i.e., injection wells related to oil and gas production). States seeking primacy under SDWA Section 1425 must demonstrate that their Class II Program is an effective program to prevent underground injection that endangers USDWs.

States with an approved UIC Program take full responsibility to implement and enforce that program. Federal regulatory requirements for Class VI wells can be found in 40 CFR 124 and 144-146, including the six core elements of a new SDWA Section 1422 primacy application (see below for more information) and the substantive SDWA program provisions that a state must expand upon in those core elements.

Since SDWA Section 1425 only applies to Class II wells, primacy applications for Class VI wells must be evaluated under SDWA Section 1422. A state must demonstrate in its UIC Program Class VI primacy application that it has either:

1. **Developed a new UIC Program for all well classes**, including Class VI wells, in accordance with SDWA Section 1422 that is at least as stringent as the federal requirements found in 40 CFR 124, 144-146 and 148; or **developed a new UIC Program for Class VI wells**, independent of the other UIC well classes, in accordance with SDWA Section 1422 that is at least as stringent as the federal requirements found in 40 CFR 124 and 144-146 (see Section 3 for additional information on developing a new UIC Program primacy application); or
2. **Revised its existing SDWA Section 1422 UIC Program** to include Class VI wells with regulations that are at least as stringent as the federal requirements

found in 40 CFR 124 and 144-146 (see Section 4 for additional information on developing a UIC Program revision application).

2.1 Class VI Primacy Options

While many of the primacy application and approval process elements are required (refer to Sections 3 and 4), EPA has included flexibilities in the Class VI Rule and allowed for state discretion where possible to better address the unique concerns and characteristics of Class VI injection wells.

Traditionally, EPA has approved primacy applications under SDWA Section 1422 for all injection well classes and under SDWA Section 1425 for Class II injection wells only. Under the Class VI Rule [75 FR 77230, 40 CFR 145.1(i)], EPA is allowing states to apply for independent primacy for Class VI injection wells only under SDWA Section 1422. Thus, states without UIC primacy, or states with only SDWA Section 1425 primacy for Class II wells, can apply for independent primacy for Class VI wells under SDWA Section 1422. EPA's willingness to accept independent primacy applications for Class VI wells applies only to Class VI well primacy and does not apply to any other well class under SDWA Section 1422 (i.e., I, II, III or V). EPA believes that allowing independent primacy for Class VI wells may encourage states to obtain primacy and to also develop a more comprehensive approach to managing GS projects and the integration of carbon capture and storage (CCS) issues that may be outside the scope of SDWA.

States seeking to obtain primacy for the UIC Class VI Program must follow the statutory requirements under SDWA Section 1422 and regulatory requirements under 40 CFR 124 and 144-146; however, states seeking to obtain primacy for all well classes under SDWA Section 1422 must follow the requirements under 40 CFR 124, 144-146 and 148.

2.2 Applying for Class VI Primacy

EPA encourages interested states that already have SDWA Section 1422 primacy to submit a SDWA Section 1422 UIC Program revision application to EPA for review and approval. States that have SDWA Section 1425 primacy for Class II wells only, or do not have primacy for any UIC Programs, can apply for Class VI primacy under SDWA Section 1422 (independently, or along with the other well classes) by submitting a new SDWA Section 1422 UIC Program application to EPA.

EPA recommends that states interested in applying for UIC Program Class VI primacy contact the agency in order to schedule "pre-application" discussions. For example, states may want to contact EPA to clarify Class VI primacy application or state program requirements in order to ensure complete and accurate application submissions; these may assist EPA in conducting a faster review and approval process. EPA also encourages states to prepare a crosswalk comparing their Class VI regulations against the federal Class VI Rule before formally submitting a primacy application/program revision (the crosswalk is presented in Appendix B).

EPA recognizes that states may choose to develop a UIC Program that is administered by multiple agencies. EPA believes that states are in the best position to identify the appropriate agency to oversee Class VI wells and recognizes that, in some states, both the traditional oil and gas agency and the traditional environmental protection agency may administer some Class VI requirements. Note that 40 CFR 145.23 requires any agency responsible for administration of the program to have statewide jurisdiction over the class of injection activities for which it is responsible.

EPA is required, by statute under SDWA Section 1422(c) and by regulation, to prescribe and directly implement a UIC Program for states that do not seek primacy or that fail to demonstrate meeting federal UIC requirements. Following promulgation of the final Class VI Rule, states were given until September 6, 2011 to apply for primacy; after that time, EPA began to directly implement the UIC Class VI Program on behalf of states that chose not to apply for Class VI primacy or did not receive EPA approval for a Class VI Program. On September 6, 2011, EPA assumed Class VI primacy nationwide. If and/or when a state receives primacy approval, EPA will transfer the Class VI Program to the state on the date that the state's Class VI Program is approved.

During the primacy review and approval process, EPA will review and evaluate the proposed state program, which includes state regulations that are submitted with each primacy application. EPA will evaluate a state's UIC Program submission based on the stringency and equivalency of a state's regulations in order to determine whether the state may be granted primacy for the Class VI Program [SDWA Section 1422(b)(1)(A)(i)].

EPA has developed a set of SOPs for the evaluation and approval/disapproval of state applications for UIC Class VI Programs. The SOPs will facilitate and help streamline the review and approval process by identifying the responsibilities of EPA OGWDW and Regional staff. The SOPs build upon and tailor the primacy application/program revision review process for Class VI primacy, but do not supersede or replace previous OGWDW guidance, e.g., *Guidance for Review and Approval of State Underground Injection Control (UIC) Programs and Revisions to Approved State Programs* (Guidance #34). The SOPs are presented in Appendix A of this manual.

3.0 Required Elements of a New SDWA Section 1422 UIC Program Primacy Application: for States Currently without SDWA Section 1422 Primacy or States with SDWA Section 1425 Primacy for Class II Wells Only

States that currently do not have primacy under SDWA Section 1422 must submit a new primacy application to gain primacy for Class VI wells. Additionally, states with Class II primacy under SDWA Section 1425 only must submit a new primacy application to gain primacy for Class VI wells under Section 1422. This section focuses on the elements of the new SDWA Section 1422 UIC Program primacy application, including EPA's rulemaking under 40 CFR 147.

In addition, 40 CFR 145 specifies the primacy application submission requirements, as well as the procedures EPA will follow when approving, revising and withdrawing state programs under SDWA Section 1422. The electronic Code of Federal Regulations can be found on the Internet at: www.ecfr.gov. The Class VI Rule preamble and requirements can be found at 75 FR 77230 or on the Internet at: http://federalregister.gov/a/2010-29954 and at http://water.epa.gov/type/groundwater/uic/class6/gsregulations.cfm.

3.1 General Requirements for a New SDWA Section 1422 UIC Program Application

In accordance with 40 CFR 145.11, 145.12 and 145.13, a new state UIC Program must include certain substantive provisions before EPA can approve the state program. In the primacy application, a state must demonstrate that it has the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Note that the requirements and provisions of a state's program do not need to be identical to the federal provisions; however, each requirement must be at least as stringent as the corresponding federal provision. To expedite the primacy review process, EPA recommends that states incorporate the federal Class VI regulations by reference or enact the federal Class VI regulation language verbatim so that each corresponding provision matches exactly.

3.2 Specific Elements of a New SDWA Section 1422 UIC Program Primacy Application

Under 40 CFR 145.22, states seeking Class VI primacy under SDWA Section 1422 through a new UIC Program primacy application must submit to EPA the following six core primacy application elements:

1. A letter from the Governor of the state requesting program approval [40 CFR 145.22(a)(1)];
2. A complete program description describing how the state intends to carry out its responsibilities [40 CFR 145.22(a)(2) and 145.23];
3. An Attorney General's statement [40 CFR 145.22 (a)(3) and 145.24];
4. A Memorandum of Agreement with the Regional Administrator [40 CFR 145.22(a)(4) and 145.25];
5. A copy of all applicable state statutes and regulations, including those governing state administrative procedures [40 CFR 145.22(a)(5)]; and
6. A demonstration of compliance with the public participation requirements [40 CFR 145.22(a)(6)].

The following subsections describe in more detail the six core primacy application elements and the documentation needed for new UIC Program primacy applications.

1. New SDWA Section 1422 UIC Program – Primacy Application: Letter from the Governor

A new UIC Program Class VI primacy application includes a letter from the Governor of the state officially requesting approval for Class VI Program primacy. The letter should specify that approval is sought under SDWA Section 1422 and affirm that the state is willing and able to carry out the program described in the application.

2. New SDWA Section 1422 UIC Program – Primacy Application: Program Description

A new UIC Program primacy application must also include a program description. Federal regulations in 40 CFR 145.23 list all of the information that must be submitted as part of the program description, although some of the requirements will not be applicable to states that submit an application for independent primacy for Class VI wells. Therefore, the information a state is required to include in the primacy application program description will depend on:

- A state's current primacy status (i.e., either no UIC primacy or SDWA Section 1425 primacy for Class II wells only), or
- If the state is applying for primacy for all well classes under SDWA Section 1422 or for independent primacy for Class VI wells.

At a minimum, the program description must include:

- A narrative on the **scope, structure, coverage and processes** of the state program [40 CFR 145.23(a)].
- A description of the **organizational structure** of the agency administering the program, including a description of program staff, organization charts, and estimated costs and sources of funding for implementing the program for the first 2 years [40 CFR 145.23(b)].
    - EPA recognizes that states may choose to describe in their UIC primacy application a UIC Program that is administered by multiple agencies. For example, the state oil and gas agency could either exercise authority for the Class VI Program through an MOU with the Class VI primacy agency, or primacy for the entire Class VI Program could reside with the state oil and gas agency. Under 40 CFR 145.23, if more than one agency will have authority for the program, each agency must have statewide jurisdiction over each class of activity that will be administered, and the program description must set out the responsibilities of each agency and the procedures for coordination.
    - A sample MOU between two state agencies is included in Appendix F. The MOU provides an operating agreement for state agencies to execute their respective responsibilities concerning regulation of Class VI wells. The example MOU can be modified based on the state's specific circumstances (e.g., if the agencies will share responsibilities for other injection well classes).
    - Because of the extent and complexity of the information that must be reviewed in response to Class VI permit applications and evaluated throughout the operational and post-injection phases of a Class VI project, EPA recommends that permitting authorities demonstrate in their primacy application that they have in-house staff or access to contractor support with the following technical expertise:
        - Site characterization expertise (e.g., geologists, hydrogeologists, log analysts/experts, geochemists) to review site characterization data submitted during permitting and throughout the project duration as per 40 CFR 146.82, 146.83, 146.84, 146.87, 146.90, 146.93, 146.94 and 146.95.
        - Modeling expertise (e.g., hydrogeologists, environmental/reservoir modelers) to evaluate AoR delineation computational modeling during permitting and AoR reevaluation modeling assessments throughout the project duration as per 40 CFR 146.84(b) and (e)(4). Familiarity and/or experience with Eclipse, STOMPCO2, TOUGH2, GEM, Intersect or other simulators used for modeling the movement of carbon dioxide and the associated pressure front at GS projects are integral to computational modeling data evaluation.
        - Well construction and testing expertise (e.g., well engineers, log analysts/experts, geologists) to review well construction information and operational reports on the performance of Class VI wells or witness and/or evaluate the results of mechanical integrity tests and testing and monitoring reports as per 40 CFR 146.86, 146.87, 146.88, 146.89, 146.90 and 146.92.

- Financial expertise to review the financial responsibility information during permitting and during annual evaluations of the qualifying financial instruments as per 40 CFR 146.85(e).
- Policy/regulatory expertise (i.e., experts on the UIC Program and the Class VI Rule) to evaluate compliance with Class VI Rule requirements.
- Risk analysis expertise to evaluate emergency and remedial response scenario probabilities and appropriate remediation cost estimates as per 40 CFR 146.94.

Class VI permitting is anticipated to be complex, iterative and comprehensive. Many permitting authorities (states) may take a "team" approach to permitting by dividing the permit between staff with different areas of expertise. For example, it is not anticipated that one person will have all the requisite experience to conduct Class VI permitting independent of other experts. Additionally, due to the nature of Class VI projects, states may want to plan for and demonstrate in their program description that they can devote multiple full-time equivalents (FTE) per project to ensure timely and effective permitting particularly as some states may encounter a significant permitting burden. This way, states would also demonstrate that they have the capacity to oversee multiple GS projects within their states.

- A description of **permitting, administrative and judicial review** procedures [40 CFR 145.23(c)].
- Copies of the **permit, permit application, reporting and manifest forms**. For Class VI Programs, the state can submit copies of the current forms in use by the state, if any [40 CFR 145.23(d)]. If the state plans to develop reporting forms for Class VI wells, they should provide any available drafts or outlines of the forms or a brief description of the information they plan to request.
- A description of the state's **compliance tracking and enforcement program** [40 CFR 145.23(e)].
- A **schedule for issuing Class VI permits** within 2 years after program approval. For all other injection well classes, if any, the state must include a schedule for issuing permits within 5 years after program approval for all injection wells which are required to have permits [40 CFR 145.23(f)(1)].
- A statement of the state's **priorities for issuing Class VI permits** and the number of Class VI permits that will be issued during the first 2 years of program operation. For all other injection well classes, if any, include a description of the priorities (according to criteria set forth in 40 CFR 146.9) for issuing permits, including the number of permits in each class of injection well that will be issued each year during the first 5 years of program operation [40 CFR 145.23(f)(2)].
- A description of **how the state will meet the mechanical integrity testing requirements** for Class VI wells at 40 CFR 146.89 and 40 CFR 146.8 for other well classes, including the frequency of testing that will be required and the number of tests that will be reviewed by the UIC Program Director each year [40 CFR 145.23(f)(3)].

- A description of the state's **procedures to notify owners or operators of injection wells of the requirement to apply for and obtain a permit**. For Class VI Programs approved after December 10, 2011, the state must describe its procedures for notifying owners or operators of any Class I wells previously permitted for GS, or owners or operators of any Class V experimental technology wells that are no longer experimental but will continue to inject carbon dioxide for GS, that they must apply for a Class VI permit within 1 year of state program approval [40 CFR 145.23(f)(4)].

  For other injection well classes, if any, the notification must require well owners or operators to file a permit application as soon as possible, but no later than 4 years after state program approval for all injection wells requiring a permit.
- A description of **how the state will establish and maintain an injection well inventory** [40 CFR 145.23(f)(7)].
- A description of aquifers, or parts thereof, which the UIC Program Director has identified under 40 CFR 144.7(b) as **exempted aquifers** and a summary of supporting data. For Class VI Programs, states must incorporate information related to any EPA-approved exemptions expanding the areal extent of existing aquifer exemptions for Class II enhanced recovery wells transitioning to Class VI injection pursuant to new Class VI requirements at 40 CFR 146.4 and 144.7(d), including a summary of supporting data and the specific location of the aquifer exemption expansions [40 CFR 145.23(f)(9)].
- A description of the state's procedures for **notifying any states, tribes and territories of Class VI permit applications** where the AoR crosses jurisdictional boundaries and the procedures for documenting these consultations [40 CFR 145.23(f)(13)].

Note that, because the Class VI Rule provides states with certain flexibilities to develop a Class VI Program that addresses unique characteristics within the state, the program description may need to include additional information. For example, the Class VI regulations provide the UIC Program Director with certain discretion, including the option to issue **injection depth waivers**, pursuant to 40 CFR 146.95. These waivers, if authorized by state regulation, should be described in the program description of the primacy application. In addition, EPA recommends the program description also provide information on how the state will implement the Class VI **financial responsibility** requirements.

See 40 CFR 145.23 for more details on all of the required elements of the program description for a new SDWA Section 1422 UIC Program primacy application, especially if the state is interested in applying for primacy for all injection well classes, as not all of the requirements in the CFR are cited here. Appendix H presents a template and sample text for a program description.

3. New SDWA Section 1422 UIC Program – Primacy Application: Attorney General's Statement

An Attorney General's statement is a required component of a new program primacy application [40 CFR 145.24]. This statement is a certification by a qualified representative of the state,

asserting that state statutes, regulations and judicial decisions demonstrate adequate authority to administer the UIC Program. The Attorney General's statement also certifies that the state either does not have environmental audit privilege and/or immunity laws, or, if there are environmental audit privilege and/or immunity laws, that they will not affect the ability of the state to meet the enforcement and information gathering requirements under SDWA. In addition, in those states that elect to divide the program administration between more than one agency, the Attorney General's statement will need to designate a lead agency for administration of the UIC Program. An example Attorney General's statement is included in Appendix G of this manual.

4. New SDWA Section 1422 UIC Program – Primacy Application: Memorandum of Agreement

An MOA between the state and the EPA Regional Administrator is another required element of a new program primacy application [40 CFR 145.25]. The MOA is the central agreement setting the provisions and arrangements between the state and EPA concerning the administration, implementation and enforcement of the state UIC Program. An example MOA is included in Appendix D of this manual; Appendix E is a sample Addendum to an MOA that is specific to the Class VI Program that may be of use to states with existing UIC Programs. The MOA including the Addendum can also be used by states applying for primacy of other well classes.

5. New SDWA Section 1422 UIC Program – Primacy Application: Copies of all Applicable State Statutes and Regulations

Copies of all applicable state statutes and regulations, including those governing state administrative procedures, are a required element of a new primacy program application. EPA is aware that several states have published GS or CCS regulations, and several more states are in the process of developing their statutory frameworks, regulatory authorities, technical guidance and strategies for addressing CCS and GS. To facilitate the UIC Class VI Program primacy application approval process, EPA encourages states to incorporate the federal Class VI requirements by reference, or to incorporate the federal language verbatim (see Section 1.1 for an overview of the Class VI Rule requirements).

Appendix B presents a Federal/State Regulatory Comparison Crosswalk. The crosswalk may be completed by the state in order to identify the statutory or regulatory provisions that correspond to each federal UIC requirement. A completed crosswalk will help EPA in reviewing the state's primacy application and may expedite the review and approval process. Note that 40 CFR 145.11(b)(1) says that "states need not implement provisions that are identical to the provisions listed in paragraphs (a)(1) through (a)(32) of this section. Implemented provisions must, however, establish requirements at least as stringent as the corresponding listed provisions. While states may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent." If the state provisions differ from the federal UIC requirements, the state will want to explain in the crosswalk how its requirements are no less stringent, in order to facilitate EPA's evaluation of the differences.

6. New SDWA Section 1422 UIC Program – Primacy Application: Demonstration of Compliance with the Public Participation Requirements

A demonstration of compliance with the public participation requirements pursuant to 40 CFR 145.31(a) is required for all new UIC Program primacy applications. All states seeking approval of a UIC Program must issue a public notice indicating the state's intent to adopt a UIC Program, provide at least a 30-day public comment period and schedule a public hearing. The demonstration of compliance can be submitted once the notice, comment and hearing requirements have been met. States must also include: copies of all written comments received by the state; a transcript, recording or summary of any public hearings; and a "responsiveness summary" which identifies public participation activities conducted by the state, significant comments received by the state and how the state responded to those comments.

This public notice must:

- Be circulated in a manner that attracts interested persons (e.g., publication in enough of the largest newspapers and mailing to persons on approved state mailing lists);
- Indicate when and where the state's proposed program submission may be reviewed by the public;
- Indicate the cost of obtaining a copy of the program submission;
- Provide for a comment period of at least 30 days;
- Briefly outline the fundamental aspects of the state UIC Program; and
- Identify a person who can be contacted for further information.

After complying with these public notice requirements, states may submit their proposed UIC Program to EPA for approval. In accordance with the Class VI Rule and to support states with the Class VI primacy application process, EPA is allowing the electronic submission of required primacy application information (e.g., letter from the Governor, program description, Attorney General's statement, MOA, etc.). For Class VI Programs, the entire submission can be sent electronically. Electronic submissions will reduce the amount of paper used in applying to EPA for Class VI primacy, thereby reducing the state's cost of submitting a primacy application and expediting the application and approval processes. Electronic submissions may be sent to: ClassVIPrimacy@epa.gov. In the event that a state cannot provide an electronic submission, hard copy submissions provided by mail will be accepted (at least three copies are required, per 40 CFR 145.22(a)). Send hard copy submissions to the U.S. EPA Office of Ground Water and Drinking Water, 1200 Pennsylvania Avenue, NW (Mail Code: 4606M), Washington, D.C., 20460, Attention: UIC Class VI Primacy.

3.3 Processing New SDWA Section 1422 UIC Program Applications

When EPA receives a state primacy application, EPA must first determine whether the application is complete. Once EPA determines that the state's primacy application is complete, EPA's statutory review period will be deemed to begin on the date of receipt of the state submission. If EPA finds that a state submission is incomplete, the statutory review period will not begin until all the necessary information is received. EPA will review and either approve or

disapprove the application through a rulemaking. For submissions including more than one class of well, EPA may approve the application in part or disapprove in part, as prescribed under SDWA Section 1422(b)(2) and 40 CFR 145.

In accordance with 40 CFR 145.31(c), once EPA determines that a state's new UIC Program primacy application is complete, the agency must issue public notice and provide a public comment period of at least 30 days. EPA will publish the public notice in the *Federal Register* and in the state's largest newspapers and mail it to interested persons. The public notice must include a summary of the proposed UIC Program, note the availability of the submission for inspection and copying, and provide for a public hearing to be held if there is sufficient public interest.

After the public comment period has ended and all comments have been evaluated, the state UIC Program will be either approved or disapproved by the EPA Administrator through a rulemaking process. If the EPA Administrator approves the state UIC Program, the agency will announce the program approval in the *Federal Register,* and the state program will become effective on the date in the announcement. Concurrently, the state program will be codified under 40 CFR 147. Appendix A presents EPA's standard operating procedures for review of Class VI primacy applications.

4.0 Required Elements of a SDWA Section 1422 UIC Program Revision Application: for States Currently with SDWA Section 1422 UIC Program Primacy

States that currently have primacy for UIC injection well classes authorized under SDWA Section 1422 have previously demonstrated that the state's UIC Program contains the minimum requirements equivalent to the federal UIC requirements in order to prevent underground injection that endangers USDWs. These states do not need to submit all of the documentation described in Section 3 (i.e., information that applies to all injection well classes), but do need to submit a UIC Program revision application to EPA for approval to incorporate the Class VI requirements into the current state UIC Program.

EPA acknowledges that revisions to other UIC well class programs may be necessary in order to include Class VI injection wells in the state UIC Program. EPA encourages states to revise their UIC Programs as appropriate and to submit all program revision information along with the UIC Program revision application to add Class VI wells. This subsection of the manual focuses solely on the Class VI primacy requirements, and states should refer to SDWA Section 1422 and 40 CFR 145.32 for the additional program revision application requirements that may apply.

4.1 General Requirements of a SDWA Section 1422 UIC Program Revision Application

Pursuant to 40 CFR 145.32(b)(1), the SDWA Section 1422 UIC program revision application must include:

1. A modified program description including, but not limited to, the new requirements of the Class VI Rule at 40 CFR 145.23(f);
2. A modified Attorney General's Statement;
3. A modified MOA;
4. Copies of state statutes and regulations, including administrative procedures for the UIC Class VI Program; and
5. A modified Governor's letter (if necessary).

The following sections describe in more detail these five UIC Program revision application elements and the documentation needed for SDWA Section 1422 UIC program revision applications to add Class VI wells.

Pursuant to 40 CFR 145.32, the incorporation of the Class VI Rule requires a substantial revision to state programs, whereby EPA will issue public notice once a complete state UIC Class VI Program revision application is received. The public notice will be announced in the *Federal Register*, and provide for a 30-day opportunity for comment as well as the opportunity to request a public hearing. EPA will hold a public hearing on the UIC Program revision application if there is sufficient public interest.

4.2 Specific Elements of a SDWA Section 1422 UIC Program Revision Application

The following subsections describe in detail the core primacy application elements and the documentation needed for UIC Program revision applications.

1. SDWA Section 1422 UIC Program Revision – Primacy Application: Modified Program Description

A state revising its UIC Program to include a Class VI Program will need to address the following Class VI-specific elements at 40 CFR 145.23 in the revised program description:

- Any copies of the **permit form(s), permit application form(s), reporting form(s) and manifest form(s)** the state intends to use in implementing the Class VI Program [40 CFR 145.23(d)]. If the state plans to develop reporting forms for Class VI wells, they should provide any available drafts or outlines of the forms or a brief description of the information they plan to request.
- Information regarding the **schedule and priorities for issuing Class VI permits** and the number of permits to be issued in the first 2 years of program operation [40 CFR 145.23(f)(1) and 145.23(f)(2)].
- How the state will meet the new **mechanical integrity testing requirements** of 40 CFR 146.89, including the frequency of testing that will be required and the number of tests that will be reviewed by the UIC Program Director each year [40 CFR 145.23(f)(3)].
- For Class VI Programs approved after December 10, 2011, the state's **procedures for notifying owners or operators** of any Class I wells previously permitted for GS, or owners or operators of any Class V experimental technology wells that are no longer experimental but will continue to inject carbon dioxide for GS, that they must apply for a Class VI permit within 1 year of state program approval [40 CFR 145.23(f)(4)].
- Information related to any **EPA-approved expansions of the areal extent of existing aquifer exemptions** for Class II enhanced recovery wells transitioning to Class VI injection for GS pursuant to 40 CFR 146.4(d) and 144.7(d), including a summary of supporting data and the specific location of the aquifer exemption expansions [40 CFR 145.23(f)(9)].
- The state's **procedures for notifying any states, tribes and territories of Class VI permit applications** where the AoR is predicted to cross jurisdictional boundaries, as well as the procedures for documenting these consultations [40 CFR 145.23(f)(13)].

Additionally, states revising their primacy programs will likely have already submitted the following elements of a program description with their original primacy application. These elements must be updated in the Class VI primacy application to reflect changes since primacy was approved:

- Any revisions to the **scope, structure, coverage and process** of the state program to include Class VI wells [40 CFR 145.23(a)].
- Any revisions to the **organizational structure** of the agency that will implement the Class VI Program [40 CFR 145.23(b)].
    - Because of the extent and complexity of the information that must be reviewed in response to Class VI permit applications and evaluated throughout the operational and post-injection phases of a Class VI project, EPA recommends that permitting authorities demonstrate in their primacy application that they have in-house staff or access to contractor support with the following technical expertise:
        - Site characterization expertise (e.g., geologists, hydrogeologists, log analysts/experts, geochemists) to review site characterization data submitted during permitting and throughout the project duration as per 40 CFR 146.82, 146.83, 146.84, 146.87, 146.90, 146.93, 146.94 and 146.95.
        - Modeling expertise (e.g., hydrogeologists, environmental/reservoir modelers) to evaluate AoR delineation computational modeling during permitting and AoR reevaluation modeling assessments throughout the project duration as per 40 CFR 146.84(b) and (e)(4). Familiarity and/or experience with Eclipse, STOMPCO2, TOUGH2, GEM, Intersect or other simulators used for modeling the movement of carbon dioxide and the associated pressure front at GS projects are integral to computational modeling data evaluation.
        - Well construction and testing expertise (e.g., well engineers, log analysts/experts, geologists) to review well construction information and operational reports on the performance of Class VI wells or witness and/or evaluate the results of mechanical integrity tests and testing and monitoring reports as per 40 CFR 146.86, 146.87, 146.88, 146.89, 146.90 and 146.92.
        - Financial expertise to review the financial responsibility information during permitting and during annual evaluations of the qualifying financial instruments as per 40 CFR 146.85(e).
        - Policy/regulatory expertise (i.e., experts on the UIC Program and the Class VI Rule) to evaluate compliance with Class VI Rule requirements.
        - Risk analysis expertise to evaluate emergency and remedial response scenario probabilities and appropriate remediation cost estimates as per 40 CFR 146.94.

      Class VI permitting is anticipated to be complex, iterative and comprehensive. Many permitting authorities (states) may take a "team" approach to permitting by dividing the permit between staff with different areas of expertise. For example, it is not anticipated that one person will have all the requisite experience to conduct Class VI permitting independent of other experts. Additionally, due to the nature of Class VI projects, states may want to plan for and demonstrate in their program description that they can devote multiple FTE per project to ensure timely and effective permitting particularly as some states may encounter a significant permitting burden. This way, states would also demonstrate that they have the capacity to oversee multiple GS projects within their states.

- The revised program description should also identify the regulatory authorities of the respective agencies if the state elects to divide the administration of the UIC Program between agencies (e.g., whether the state oil and gas agency will exercise authority for Class VI through an MOU with the Class VI primacy agency, or by obtaining primacy for the entire Class VI Program). An example MOU is included in Appendix F of this manual. The example can be modified if the agencies will share responsibilities for other injection well classes. The state should also submit revised organizational charts, if appropriate.

- A description of applicable **revised state procedures**, including any revised permitting procedures and any revised state administrative or judicial review procedures [40 CFR 145.23(c)].
- Any revisions to the state's **compliance tracking and enforcement program** [40 CFR 145.23(e)].
- A description of **how the state will establish and maintain an injection well inventory** that includes Class VI wells [40 CFR 145.23(f)(7)].

Finally, EPA recommends that the revised program description include a description of the **injection depth waiver program** to be administered, if determined by the state to allow Class VI injection well owners or operators to apply for a waiver in a supplemental report concurrent with a permit application [40 CFR 146.95]. In addition, EPA recommends the program description also provide information on how the state will implement the Class VI **financial responsibility** requirements.

Note that the above list focuses on the modified program description requirements from the UIC Class VI Rule. States are encouraged to consult 40 CFR 144.23 in its entirety for all program description requirements. Appendix H presents a template and sample text for a program description.

2. SDWA Section 1422 UIC Program Revision – Primacy Application: Modified Attorney General's Statement

An updated Attorney General's statement is a required component of a program revision application [40 CFR 145.24]. This statement is a certification by a qualified representative of the state, asserting that the state's statutes, regulations and judicial decisions demonstrate adequate authority to administer the additional Class VI Program requirements. It also certifies that, since the state was granted primacy for the UIC Program, the state either still does not have environmental audit privilege and/or immunity laws, or, if there are now environmental audit privilege and/or immunity laws, that these laws will not affect the ability of the state to meet enforcement and information-gathering requirements under SDWA. In addition, in those states that elect to divide the program administration between more than one agency, the Attorney General's statement will need to designate a lead agency. An example Attorney General's statement is included in Appendix G of this manual.

3. SDWA Section 1422 UIC Program Revision – Primacy Application: Modified Memorandum of Agreement

A revised MOA, as required by 40 CFR 145.25, setting out the new provisions and arrangements between the state and EPA concerning the administration, implementation and enforcement of the state's Class VI Program is a required component of a program revision application. An example MOA is included in Appendix D of this manual. Appendix E is a sample Addendum to an MOA that is specific to the Class VI Program that may be of use to states with existing UIC Programs. States revising their current UIC Program can use the MOA Addendum to supplement the current agreement and add the provisions and arrangements pertaining to the Class VI Program requirements. The Addendum can be revised or amended based on the specific circumstances of the agreement (e.g., the transfer of permits) between the state and EPA.

4. SDWA Section 1422 UIC Program Revision – Primacy Application: Copies of all Applicable State Statutes and Regulations

Copies of all applicable state statutes and regulations, including those governing state administrative procedures, are also required to be submitted. EPA is aware that several states have published or are in the process of developing their statutory frameworks, regulations, technical guidance and strategies for addressing CCS and GS and recognizes the complexity and importance of the states' approaches to managing GS.

EPA recommends that the Federal/State Regulation Comparison Crosswalk included in Appendix B be completed by the state to identify state statutory or regulatory provisions that correspond to each federal requirement. A completed crosswalk will help EPA in reviewing the state's application and may expedite the review process. Note that 40 CFR 145.11(b)(1) says that "states need not implement provisions that are identical to the provisions listed in paragraphs (a)(1) through (a)(32) of this section. Implemented provisions must, however, establish requirements at least as stringent as the corresponding listed provisions. While states may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent." In order to facilitate the application approval process, EPA encourages states to incorporate the federal requirements by reference, or incorporate the federal language verbatim. See Section 1.1 for an overview of the Class VI Rule requirements. If the state's provisions differ from the federal requirements, the state will want to explain in the crosswalk how its requirements are no less stringent, in order to facilitate EPA's evaluation of the differences and help EPA in making a stringency determination.

5. SDWA Section 1422 UIC Program Revision – Primacy Application: Modified Governor's Letter

The Governor's letter may need to be modified to request Class VI Program approval for primacy and affirm that the state is willing and able to carry out the revised program described in the application.

In accordance with the Class VI Rule and to support states with the Class VI primacy application process, EPA is allowing the electronic submission of required primacy application information (e.g., program description, Attorney General's statement, MOA, etc.). For Class VI Programs,

the entire submission can be sent electronically. Electronic submissions will reduce the amount of paper used in applying to EPA for Class VI primacy, thereby reducing the state's cost of submitting a primacy application and expediting the application and approval processes. Electronic submissions may be sent to: ClassVIPrimacy@epa.gov. In the event that a state cannot provide an electronic submission, hard copy submissions provided by mail will be accepted (at least three copies are required, per 40 CFR 145.22(a)). Send hard copy submissions to the U.S. EPA Office of Ground Water and Drinking Water, 1200 Pennsylvania Avenue, NW (Mail Code: 4606M), Washington, D.C., 20460, Attention: UIC Class VI Primacy.

4.3 Processing SDWA Section 1422 UIC Program Revision Applications

As discussed above, once EPA receives a state UIC Program revision application to add Class VI wells to the current SDWA Section 1422 UIC Program, EPA will review the program revision application and announce the program revision for public notice and comment.

State UIC Program revisions are determined by EPA to be either substantial or minor revisions. Adding a Class VI Program to an existing SDWA Section 1422 UIC Program has been determined to be a substantial program revision pursuant to 40 CFR 145.32. In accordance with 40 CFR 145.32(b)(2), EPA must issue public notice and provide an opportunity to comment for a period of at least 30 days. EPA must also publish the public notice in the *Federal Register,* and in enough of the largest newspapers in the state to provide statewide coverage, and also mail it to interested persons. The public notice must include a summary of the proposed state UIC Program revisions and provide for an opportunity for a public hearing to be held if there is sufficient public interest.

After the public comment period has ended, the state UIC Program revision will be either approved or disapproved by the EPA Administrator through a formal rulemaking process. If the EPA Administrator approves the state UIC Program revision, EPA will then announce the approval in the *Federal Register*, and the revised state program becomes effective on the date in the announcement. The revised state program, incorporating all of the additional Class VI requirements, will be codified under 40 CFR 147. Appendix A presents EPA's standard operating procedures for review of Class VI primacy applications.

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Appendix A

Standard Operating Procedures for Processing Class VI Primacy Application/Program Revision Submittals

Standard Operating Procedures for Processing Class VI Primacy Application/Program Revision Submittals

Introduction

This document contains standard operating procedures (SOPs) for the evaluation and approval/disapproval of state applications for primary enforcement responsibility (primacy) for the Class VI Underground Injection Control (UIC) program.

- **States that currently do not have primacy** under SDWA Section 1422 must submit a new primacy application to gain primacy for Class VI wells. (Note that states that only have Class II primacy under SDWA Section 1425 must also submit a new primacy application to gain primacy for Class VI wells.)

- **States that currently have primacy** under SDWA Section 1422 must apply for a program revision to include Class VI wells in their UIC Programs. EPA considers all Class VI primacy applications to be substantial revisions of a state's SDWA Section 1422 UIC Program, and rulemakings will be needed to add Class VI to a state's UIC Program.

These SOPs will facilitate and help streamline the review and approval process by identifying the responsibilities of the Office of Ground Water and Drinking Water (OGWDW) and Regional staff. These SOPs build upon and tailor the primacy application/program revision review process for Class VI primacy, but do not supersede or replace previous OGWDW guidance, e.g., Guidance for Review and Approval of State Underground Injection Control (UIC) Programs and Revisions to Approved State Programs (Guidance #34).

Primacy application/revision reviews will be carried out by a primacy review team of OGWDW and Regional staff. Through this team approach, OGWDW staff will support the Regions if needed or requested, while allowing the Regions to take the lead on their delegated responsibilities related to reviewing primacy applications and revisions.

Organization

This SOP document is divided into the four general phases of the primacy application/program revision review process:

- **Phase I: Pre-Application Activities,** to help the states develop primacy applications/program revisions that meet all of the requirements for these submittals, including completing a crosswalk of the state's Class VI regulations.
- **Phase II: Receive Application and Determine Completeness,** includes the completeness review, preparation of a ***Federal Register*** Notice of Completeness, and creation of a docket.
- **Phase III: Review and Evaluate for Approval,** includes activities during and after the 30-day comment period (e.g., primacy application/revision review, public hearings, and reviewing public comments).

- **Phase IV: Tier III Rulemaking and Codification in 40 CFR Part 147,** e.g., preparing rule text, creating a rulemaking docket, and the final rulemaking process and codification of state regulations in Part 147.

EPA has developed materials and resources (e.g., templates of common documents) available to the Regions and states to assist them in developing, reviewing, and implementing an enforceable Class VI program. All of these materials will be available at http://water.epa.gov/type/groundwater/uic/wells_sequestration.cfm.

Phase I: Pre-Application Activities

When a state notifies the Region of its intention to submit a Class VI primacy application/program revision, a review team will be created consisting of an OGWDW and a Regional lead (i.e., the "primacy review team"). The primacy review team will work together to identify and resolve problems with the state's application/revision before it is submitted. Once a state indicates interest in applying for Class VI primacy:

- The Region notifies OGWDW of the state's interest and ensures that all available information is posted to the Class VI Primacy Applications Website.
- OGWDW and Regional staff form a primacy review team.
- OGWDW begins to enter key information on the status of the state's application into the primacy application tracking system (e.g., who will review the primacy application and major milestones in the review process).

EPA plans to engage the states as early as possible in the process. Prior to a state's formal application submittal:

- States and Regions may access the Class VI Primacy Applications Website. The site has a library of useful information, including a user's manual and all of the resources referenced in this document.

- The primacy review team should work with state leads as they develop their primacy applications, including reviewing draft materials and answering questions.

- The primacy review team should encourage states to prepare a crosswalk of their GS regulations against the federal Class VI rule before formally submitting the primacy application/program revision. Two crosswalks are available– one for new SDWA Section 1422 UIC Programs and one for program revisions to add Class VI. Taking this step early in the process will help the primacy review team identify any significant issues that may delay or prevent approval of the primacy application/program revision.

- The primacy review team should inquire whether the state plans to submit other program changes in addition to the Class VI primacy application/revision. For example, have any state statutory or regulatory changes been made since the last approval date codified in 40 CFR Part 147 that have not been submitted to EPA for review and approval as either non-substantial or substantial revisions?

Pre-application activities specific to **new primacy applications** include:

- Regional staff should ensure that states without primacy under SDWA Section 1422 are conducting (or are planning to conduct) public participation activities so that documentation of this can be included in the primacy application.

Pre-application activities specific to **primacy revision applications** include:

- Regions should work with states to identify which elements of their program need to be revised to meet the requirements of 40 CFR Part 145.32(b); see Box 2. For example, if the state's 1425 (i.e., Class II) agency will oversee Class VI wells, information about this agency will need to be provided in the program revision application. Given the newness of Class VI requirements and, in some cases, the long period of time since the original submittal, modified submittals are recommended.

Phase II: Receive Primacy Application and Determine Completeness (30 days)

Box 1 below presents the elements of a new program submission, as required at 40 CFR Part 145.22(a); **Box 2** presents the elements of a program revision submission per 40 CFR Part 145.32(b)(1). See the Primacy Manual for detailed information on each element.

Some elements of primacy applications for new programs are not required for program revisions, since the information was provided in the original UIC primacy application and in subsequent actions (e.g., lists of USDWs and aquifer exemptions in the state). However, any updates to this information since the original submittal should be provided in the program revision application (see Phase I, above).

Box 1: Elements of a New Program Submission [40 CFR Part 145.22(a)]

1. **Governor's letter** requesting program approval for primacy. [145.22(a)(1)]
2. Complete **Program Description** that meets the requirements of 145.23 (including organizational charts, applicable state procedures, permit forms, Memoranda of Understanding, etc.). New programs must also identify all USDWs and exempted aquifers in the state. [145.22(a)(2)] See Appendix H of the Primacy Manual for a sample.
3. **Attorney General's Statement** regarding adequate authority to carry out the program, as required at 145.24. [145.22(a)(3)] See Appendix G of the Primacy Manual for a sample.
4. **Memorandum of Agreement** with the Regional Administrator setting out the provisions and arrangements between the state and EPA. [145.22(a)(4) and 145.25] See Appendices D and E of the Primacy Manual for a sample MOA and Class VI specific Addendum to an MOA.
5. Copies of all applicable **state statutes and regulations**, including those governing state administrative procedures. [145.22(a)(5)]
6. Documentation of **public participation activities** prior to program submission. [145.22(a)(6)]

Box 2: Elements of a Program Revision Submission [40 CFR Part 145.32(b)(1)]

1. **Modified Program Description** (including organizational charts, applicable state procedures, permit forms, Memoranda of Understanding, etc. addressing the new Class VI program). See Appendix H of the Primacy Manual for a sample.
2. Modified **Attorney General's Statement** regarding adequate authority to carry out the program. See Appendix G of the Primacy Manual for a sample.
3. Modified **Memorandum of Agreement** with the Regional Administrator setting out the new provisions and arrangements between the state and EPA concerning the state's Class VI program. See Appendices D and E of the Primacy Manual for a sample MOA and Class VI specific Addendum to an MOA.
4. Copies of all applicable **state statutes and regulations**, including those governing state administrative procedures.

States may submit a primacy application/program revision via the Class VI Primacy Applications Website. States may also submit primacy applications/revisions by e-mail to ClassVIPrimacy@epa.gov or send hard copy submissions to U.S. EPA Office of Ground Water and Drinking Water, 1200 Pennsylvania Avenue, NW (Mail Code: 4606M), Washington, D.C., 20460. Attention: UIC Class VI Primacy.

Completeness Review

Within 30 days of receiving a primacy application/program revision, the primacy review team will make a determination regarding the completeness of the application. This is a required deadline for new primacy program applications [40 CFR Part 145.22(b)]. While there is no statutory deadline for reviewing program revisions, meeting the 30-day timeframe is a goal in order to expedite the Class VI primacy approval process.

- The primacy review team reviews the application for completeness and holds conference calls to discuss it.
- The primacy review team works together to address any outstanding issues.
- Regions document the final determination as to whether the state's primacy application/program revision is complete and notify the state of this determination.

A complete package must, at a minimum, contain all of the required pieces (i.e., all of the elements in Box 1 for new applications and the applicable elements in Box 2 for program revisions). If a primacy application/program revision is not complete (i.e., if all of the pieces are not present), the Region will request additional information from the state before proceeding with the review. However, the primacy review team should work with the state (even before the application is submitted) so that they submit an application that will eventually be approvable. It will be necessary to strike a balance between a minimally complete and a "perfect" submittal to avoid delays in submitting the state's application.

Federal Register Notice of Completeness and Solicitation of Public Comment

Once the application is determined to be complete, the Region drafts and publishes a public notice in the ***Federal Register*** and in newspapers [40 CFR Part 145.31(c) for new applications; 40 CFR Part 145.32(b)(2) for revisions]. For program revisions, the ***Federal Register*** Notice is also referred to as a "Notice of Receipt of Program Revision." The Regional Administrator signs the notice. The notice will include:

- Notice that the state's primacy application/program revision is complete.
- How to obtain a copy of the application/revision (e.g., docket ID, Regional or OGWDW contact person).
- Solicitation of public comment (for 30 days).
- Information on a public hearing (new programs) or instructions on how to request one (program revisions).

A template of a ***Federal Register*** Notice of Completeness with "blanks" for Regions to add public hearing information and instructions for submitting public comments, etc., is available. Note that the ***Federal Register*** office uses Word 2003 software; writers of notices should be sure to save files as .doc (and not .docx) files to avoid publication delays.

If multiple states within a Region apply for Class VI primacy at or near the same time, the Region can combine the Notices of Completeness for the states together in one ***Federal Register*** notice. Decisions regarding combining notices will be case-specific (i.e., only when multiple notices are ready for publication within a few days of each other), so that no reviews are delayed.

Create Docket

OGWDW will create a docket for each primacy application/program revision in preparation for eventual codification of an approved program. Part 147 rulemaking materials are retained by OGWDW, and the Regions will keep the remaining materials related to the program approval by the agency. All pre-decision materials should be retained in case they need to be included in the docket. Contents of the docket include:

- The complete primacy application/program revision (provided by the primacy review team).
- A ***Federal Register*** Notice of Completeness (provided by the Region).
- Any documents about the hearing that are not in the ***Federal Register*** notice, e.g., federal actions or formal letters, including a letter of deficiency, if these are part of the record.

Phase III: Review Application and Evaluate for Approval (90 days)

During the 30-day public comment period, the Regions will receive public comments, hold a public hearing, and begin to review the primacy application/program revision.

Public Hearing

For **new Class VI primacy applications**, 40 CFR Part 145.31(c)(1) requires EPA to issue public notice indicating a public hearing will be held by EPA. The notice of public hearing can be included in the Notice of Completeness and must provide at least 30 days notice of the hearing. The notice of public hearing may require persons wishing to present testimony to file a request with the Regional Administrator. The public hearing may be cancelled without further notice if sufficient public interest in a hearing is not expressed.

For **substantial program revisions** (i.e., to add Class VI), 40 CFR Part 145.32(b)(2) requires EPA to issue public notice and provide the opportunity for a public hearing. If a public hearing is requested (even by only one person), the Region is encouraged to hold one.

At least 30 days' advance notice of a hearing is required. To allow the hearing to be held during the public comment period for the Notice of Completeness, a 60 day comment period is recommended. The ***Federal Register*** notice could say that interested parties must request a hearing by day 15, then the Region would be able to provide 30 days notice of the hearing, hold a hearing on day 45, and close the comment period on day 60.

The Regions will determine the logistics of planning the public hearing, including cancelling the hearing if no one requests it, etc. One option is to plan to hold a hearing, provide information (e.g., the date and location of the hearing) in the ***Federal Register*** Notice of Completeness, and indicate that the hearing will be cancelled if there is no expressed interest.

Another option is to provide a contact name or other information for requesting a hearing in the ***Federal Register*** Notice of Completeness; then, if a hearing is requested, plan and provide notice of the hearing (with the date and location of the hearing) in a second ***Federal Register*** Notice.

- The Region identifies location and date of public hearing.
- The Region provides notice of public hearing in the ***Federal Register*** and via newspaper advertisements.
- If a hearing is scheduled and there is insufficient public interest, the Region cancels the hearing.
- The Region takes comment at public hearing; includes remarks in responsiveness summary.

Primacy Application /Program Revision Review

Once the primacy application/revision is determined to be complete, the primacy review team will begin a thorough review of the application (i.e., to assess its adequacy). Because the regulatory crosswalk should have been completed during the pre-application phase, it is assumed that efforts at this point will focus on the remaining elements of the package.

- Review program description, Attorney General's statement, Memorandum of Agreement, and Memorandum of Understanding to assess adequacy and conformance with requirements.

- Review documentation of public participation activities for new primacy applications.
- If necessary, finalize the regulatory crosswalk (created during the pre-application phase).
- NOTE: the Office of General Counsel (OGC) will answer questions and help resolve any issues with the primacy application/program revisions, but will not review the applications.

Following the 30-day comment period, the Regions review and respond to all public comments and hold public hearings (if they are requested and did not take place during the public comment period). Based on the comments and the results of the application review, the primacy review team will make a determination to approve/not approve the primacy application/program revision. [40 CFR Part 145.32(b)(3)]

Review Public Comments

The Region collects public comments on the state's primacy application/revision, addresses any comments received, and prepares responses. The Region will take the lead on this effort, with support from OGWDW as needed.

- The Region creates a public comment table and draft responsiveness summary.
- The Region consults OGWDW as needed in drafting responses.
- Responses to any comments submitted at public hearings must be included in the responsiveness summary.
- OGWDW approves the responsiveness summary.

Based on the comments, the primacy review team coordinates with states to revise their applications if needed. Based on the comments and the results of the application review, the Region will determine whether to recommend that the agency approve or disapprove the primacy application or program revision. Once all issues with a primacy application/program revision are resolved and there is a "final" application, OGWDW will initiate a rulemaking (see Phase IV, below).

Phase IV: Tier III Rulemaking and Codification in Part 147

OGWDW will simultaneously publish in the ***Federal Register*** a proposed rule and a Direct Final Rule approving or disapproving a state's primacy application/program revision. [40 CFR Part 145.31(e) for new primacy applications; 40 CFR Part 145.32(b)(4) for revisions] If there is no public objection to granting Class VI primacy to the state, the Direct Final Rulemaking under Part 147 will be promulgated. If adverse comment is received, EPA will proceed with the Proposed Rule, evaluate public comments, and publish a final rule.

The *Federal Register* notice will explain that EPA intends to approve or disapprove the state's primacy application. If the primacy application is approved, the notice will include a table of statutes and regulations for the state, along with references to the Memorandum of Agreement, Memorandum of Understanding, Attorney General's Statement, and Class VI Program Description.

If a Direct Final Rule is rejected because of comments, EPA proceeds with the proposed rule without having to withdraw the Direct Final Rule. Likewise, if no adverse comments are received on the Direct Final Rule, the rule is promulgated and no withdrawal of the proposed rule is necessary.

Prepare Rule Text

- OGWDW drafts ***Federal Register*** notices for Direct Final Rule with a companion Proposed Rule (including an updated table of state statutes and regulations for Part 147).
    - Direct Final Rule should contain language saying that, unless adverse comments are received in 30 days, the rule will go final on the date indicated in the ***Federal Register*** notice. [40 CFR Part 145.31(d) for new primacy applications; 40 CFR Part 145.32(b)(4) for revisions]
    - OGWDW will try to include as many states as possible in each rulemaking.

- OGWDW initiates a Tier III rulemaking process to draft a Direct Final Rule with a companion Proposed Rule. The following Offices must provide concurrence letters for the Direct Final Rule with a companion Proposed Rule:
    - Office of General Counsel,
    - Office of Enforcement and Compliance Assurance (OECA), and
    - Office of Regional Counsel (ORC).

- OGWDW submits Action Package for signature for the ***Federal Register*** notices of the Direct Final Rule with a companion Proposed Rule. Contents of the Action Package include:
    - An Action Memorandum to be signed by the Assistant Administrator for Water recommending the Administrator approve and sign rulemakings for the state's primacy application/revision;
    - Concurrence letters from OGC, OECA, and ORC;
    - A ***Federal Register*** notice of the Administrator's decision; and
    - A staff memorandum explaining the major issues and their resolution.

Rulemaking Docket

OGWDW will add documents related to the rulemaking to the docket. The documents in the docket include:

- The final Class VI state primacy application;
- A copy of the binder of state statutes and regulations;
- A ***Federal Register*** Notice of Direct Final Rule;
- A ***Federal Register*** Notice of Proposed Rule; and
- A summary of responses to public comments if EPA proceeds with a Proposed Rule.

Publication of Rules, Public Comment, and Final Rules

OGWDW will publish a Direct Final Rule Notice with a companion Proposed Rule Notice in the ***Federal Register***, along with an updated table of state statutes and regulations in 40 CFR Part 147. The notice will initiate a comment period of 30 days. [40 CFR Part 145.31(a)(4) for new applications; 40 CFR Part 145.32(b)(2) for program revisions]

Where possible, notices of multiple rulemakings may be combined. Decisions regarding combining notices will be case-specific (i.e., only when multiple notices are ready for publication within a few days of each other), so that no rulemakings are delayed.

A single adverse comment will not allow EPA to go direct-to-final. Comments that are out of the scope of the primacy application (e.g., about the Class VI rule) may not need to be addressed; this would be the Office of General Counsel's decision.

If no adverse comments are received, the Direct Final Rule will be promulgated on the date indicated in the ***Federal Register*** notice.

- OGWDW publishes primacy application/program revision approval in the ***Federal Register*** and updates to the table of state statutes and regulations in 40 CFR Part 147.
- If the notice approves primacy, the Region notifies the state that primacy has been approved and the state may begin issuing Class VI permits.

If adverse comments are received, EPA proceeds with the Proposed Rule, public comments are evaluated and addressed, and a final rulemaking process is initiated.

- OGWDW compiles and reviews public comments and creates a responsiveness summary.
- OGWDW initiates a Tier III rulemaking for the new Final Rule and must receive new concurrence letters from OGC, OECA, and ORC.
- OGWDW places new materials in the docket, including:
    - The ***Federal Register*** notice of Final Rule;
    - A copy of the binder of state statutes and regulations; and
    - A responsiveness summary.
- OGWDW publishes notice of a new Final Rule approving or disapproving a state's Class VI UIC Program in the ***Federal Register*** (along with updates to the table of state statutes and regulations in 40 CFR Part 147).
- Region notifies the state that primacy (as well as expansions to the areal extent of aquifer exemptions) has been approved, if applicable and the state may begin issuing Class VI permits.

Appendix B

Federal/State Regulation Comparison Crosswalk for a SDWA Section 1422 UIC Program Application

Federal/State Regulation Comparison Crosswalk for a Section 1422 UIC Program Application for Class VI Wells

The following Federal/State Regulation Comparison Crosswalk for a SDWA Section 1422 UIC Program Application can be completed by the state to identify the state statutory or regulatory provisions that correspond to the federal UIC general SDWA Section 1422 requirements and Class VI requirements. A completed comparison crosswalk will help EPA in reviewing the state's Class VI primacy application. This crosswalk is one part of a complete UIC Program primacy application. Additional information on other primacy application requirements can be found in Sections 3 and 4 of this manual.

Note that 40 CFR 145.11(b)(1) says that "states need not implement provisions that are identical to the provisions listed in paragraphs (a)(1) through (a)(32) of this section. Implemented provisions must, however, establish requirements at least as stringent as the corresponding listed provisions. While States may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent." If the state's provisions differ from the federal requirements, the state should explain in the crosswalk how its requirements are no less stringent, in order to facilitate EPA's evaluation of the differences.

In the crosswalk, the symbol "***" indicates that additional language can be found in the CRF. Only language related to general SDWA Section 1422 requirements and the Class VI Rule are provided in this crosswalk.

Note that some rule provisions in the crosswalk are highlighted in yellow. EPA is not requiring states to include such provisions in their regulations; however, states may choose to include these provisions as part of developing a complete program.

The following sections of the UIC regulations are included in this crosswalk (click on the hyperlinks to move through the document):

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
GENERAL REQUIREMENTS			
PART 124--PROCEDURES FOR DECISION MAKING			
SUBPART A--GENERAL PROGRAM REQUIREMENTS			
40 CFR 124.3 Application for a permit			
Applicable to State programs, see §145.11 (UIC). (1) Any person who requires a permit under the RCRA, UIC, NPDES, or PSD programs shall complete, sign, and submit to the Director an application for each permit required under §144.1 (UIC). Applications are not required for underground injections authorized by rules (§§ 144.21 through 144.26).	40 CFR 124.3(a)(1) (See also 145.11(a)(24))		
The Director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. See §144.31 (UIC).	40 CFR 124.3(a)(2) (See also 145.11(a)(24))		
Permit applications must comply with the signature and certification requirements of § 144.32 (UIC).	40 CFR 124.3(a)(3) (See also 145.11(a)(24))		
§ 124.5 Modification, revocation and reissuance, or termination of permits.			
(Applicable to State programs, see §145.11 (UIC).) Permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Director's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in § 144.39 or 144.40 (UIC). All requests shall be in writing and shall contain facts or reasons supporting the request.	40 CFR 124.5(a) (See also 145.11(a)(25))		
If the Director decides the request is not justified, he or she shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings.	40 CFR 124.5(b)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
(Applicable to State programs, see 40 CFR 145.11 (UIC)). (1) If the Director tentatively decides to modify or revoke and reissue a permit under 404 CFR 144.39 (UIC), he or she shall prepare a draft permit under § 124.6 incorporating the proposed changes. The Director may request additional information and, in the case of a modified permit, may require the submission of an updated application. In the case of revoked and reissued permits, the Director shall require the submission of a new application.	40 CFR 124.5(c)(1) (See also 145.11(a)(25))		
In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.	40 CFR 124.5(c)(2) (See also 145.11(a)(25))		
''Minor modifications'' as defined in § 144.41 (UIC) are not subject to the requirements of this section.	40 CFR 124.5(c)(3) (See also 145.11(a)(25))		
(Applicable to State programs, see §145.11 (UIC) of this chapter.) (1) If the Director tentatively decides to terminate: A permit under § 144.40 (UIC) of this chapter, he or she shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under § 124.6 of this chapter.	40 CFR 124.5(d)(1) (See also 145.11(a)(25))		
§ 124.6 Draft permits.			
(Applicable to State programs, see §145.11 (UIC).) Once an application is complete, the Director shall tentatively decide whether to prepare a draft permit or to deny the application.	40 CFR 124.6(a) (See also 145.11(a)(26))		
If the Director tentatively decides to deny the permit application, he or she shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this section. See § 124.6(e). If the Director's final decision (§ 124.15) is that the tentative decision to deny the permit application was incorrect, he or she shall withdraw the notice of intent to deny and	40 CFR 124.6(b)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
proceed to prepare a draft permit under paragraph (d) of this section.			
(Applicable to State programs, see §145.11 (UIC).) If the Director decides to prepare a draft permit, he or she shall prepare a draft permit that contains the following information:	40 CFR 124.6(d) (See also 145.11(a)(26))		
All conditions under §144.51 and 144.42 (UIC);	40 CFR 124.6(d)(1) (See also 145.11(a)(26))		
All compliance schedules under §144.53 (UIC);	40 CFR 124.6(d)(2) (See also 145.11(a)(26))		
All monitoring requirements under §144.54 (UIC); and	40 CFR 124.6(d)(3) (See also 145.11(a)(26))		
For: *** UIC permits, permit conditions under § 144.52;	40 CFR 124.6(d)(4)(ii) (See also 145.11(a)(26))		
(Applicable to State programs, see §145.11 (UIC).) Draft permits prepared by a State shall be accompanied by a fact sheet if required under § 124.8.	40 CFR 124.6(e) (See also 145.11(a)(26))		
§ 124.8 Fact sheet.			
A fact sheet shall be prepared for every draft permit for a major, UIC facility or activity, and for every draft permit which the Director finds is the subject of wide-spread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Director shall send this fact sheet to the applicant and, on request, to any other person.	40 CFR 124.8(a) (See also 145.11(a)(27))		
The fact sheet shall include, when applicable:	40 CFR 124.8(b) (See also 145.11(a)(27))		
A brief description of the type of facility or activity which is the subject of the draft permit;	40 CFR 124.8(b)(1) (See also 145.11(a)(27))		
The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged.	40 CFR 124.8(b)(2) (See also 145.11(a)(27))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions;	40 CFR 124.8(b)(4) (See also 145.11(a)(27))		
Reasons why any requested variances or alternatives to required standards do or do not appear justified;	40 CFR 124.8(b)(5) (See also 145.11(a)(27))		
A description of the procedures for reaching a final decision on the draft permit including: (i) The beginning and ending dates of the comment period under § 124.10 and the address where comments will be received; (ii) Procedures for requesting a hearing and the nature of that hearing; and (iii) Any other procedures by which the public may participate in the final decision.	40 CFR 124.8(b)(6) (See also 145.11(a)(27))		
Name and telephone number of a person to contact for additional information.	40 CFR 124.8(b)(7) (See also 145.11(a)(27))		
40 CFR 124.10 Public notice of permit actions and public comment period.			
Scope. (1) The Director shall give public notice that the following actions have occurred:	40 CFR 124.10(a)(1) (See also 145.11(a)(28))		
A permit application has been tentatively denied under § 124.6(b);	40 CFR 124.10(a)(1)(i)		
(Applicable to State programs, see §145.11 (UIC).) A draft permit has been prepared under § 124.6(d);	40 CFR 124.10(a)(1)(ii) (See also 145.11(a)(28))		
(Applicable to State programs, see §145.11 (UIC).) A hearing has been scheduled under § 124.12;	40 CFR 124.10(a)(1)(iii) (See also 145.11(a)(28))		
An appeal has been granted under § 124.19(c);	40 CFR 124.10(a)(1)(iv)		
No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under § 124.5(b). Written notice of that denial shall be given to the requester and to the permittee.	40 CFR 124.10(a)(2)		
Timing (applicable to State programs, see §145.11 (UIC)). (1) Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under paragraph (a) of this section shall allow at least 30 days for public comment. (2) Public notice of a public hearing shall be given at	40 CFR 124.10(b) (See also 145.11(a)(28))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
least 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.)			
Methods (applicable to State programs, see 40 CFR 145.11 (UIC)). Public notice of activities described in paragraph (a)(1) of this section shall be given by the following methods: (1) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits);	40 CFR 124.10(c)(1) (See also 145.11(a)(28))		
The applicant;	40 CFR 124.10(c)(1)(i) (See also 145.11(a)(28))		
Any other agency which the Director knows has issued or is required to issue a RCRA, UIC, PSD (or other permit under the Clean Air Act), NPDES, 404, sludge management permit, or ocean dumping permit under the Marine Research Protection and Sanctuaries Act for the same facility or activity (including EPA when the draft permit is prepared by the State);	40 CFR 124.10(c)(1)(ii) (See also 145.11(a)(28))		
Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected States (Indian Tribes). (For purposes of this paragraph, and in the context of the Underground Injection Control Program only, the term State includes Indian Tribes treated as States.)	40 CFR 124.10(c)(1)(iii) (See also 145.11(a)(28))		
Persons on a mailing list developed by: (A) Including those who request in writing to be on the list; (B) Soliciting persons for ‘‘area lists’’ from participants in past permit proceedings in that area; and (C) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional and State funded newsletters, environmental bulletins, or State law journals. (The Director may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Director may delete from the list the name of any person who fails to respond to such a request.)	40 CFR 124.10(c)(1)(ix) (See also 145.11(a)(28))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
(A) To any unit of local government having jurisdiction over the area where the facility is proposed to be located; and (B) to each State agency having any authority under State law with respect to the construction or operation of such facility.	40 CFR 124.10(c)(1)(x) (See also 145.11(a)(28))		
For Class VI injection well UIC permits, mailing or emailing a notice to State and local oil and gas regulatory agencies and State agencies regulating mineral exploration and recovery, the Director of the Public Water Supply Supervision program in the State, and all agencies that oversee injection wells in the State.	40 CFR 124.10(c)(1)(xi) (See also 145.11(a)(28))		
For major permits publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity;	40 CFR 124.10(c)(2)(i) (See also 145.11(a)(28))		
When the program is being administered by an approved State, in a manner constituting legal notice to the public under State law; and	40 CFR 124.10(c)(3) (See also 145.11(a)(28))		
Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.	40 CFR 124.10(c)(4) (See also 145.11(a)(28))		
Contents (applicable to State programs, see §145.11 (UIC))—(1) All public notices. All public notices issued under this part shall contain the following minimum information:	40 CFR 124.10(d)(1) (See also 145.11(a)(28))		
Name and address of the office processing the permit action for which notice is being given;	40 CFR 124.10(d)(1)(i) (See also 145.11(a)(28))		
Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;	40 CFR 124.10(d)(1)(ii) (See also 145.11(a)(28))		
A brief description of the business conducted at the facility or activity described in the permit application or the draft permit.	40 CFR 124.10(d)(1)(iii) (See also 145.11(a)(28))		
Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, fact sheet, and the application; and	40 CFR 124.10(d)(1)(iv) (See also 145.11(a)(28))		
A brief description of the comment procedures required by §§ 124.11 and 124.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision.	40 CFR 124.10(d)(1)(v) (See also 145.11(a)(28))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
Any additional information considered necessary or proper.	40 CFR 124.10(d)(1)(x) (See also 145.11(a)(28))		
Public notices for hearings. In addition to the general public notice described in paragraph (d)(1) of this section, the public notice of a hearing under § 124.12 shall contain the following information:	40 CFR 124.10(d)(2) (See also 145.11(a)(28))		
Reference to the date of previous public notices relating to the permit;	40 CFR 124.10(d)(2)(i) (See also 145.11(a)(28))		
Date, time, and place of the hearing;	40 CFR 124.10(d)(2)(ii) (See also 145.11(a)(28))		
A brief description of the nature and purpose of the hearing, including the applicable rules and procedures;	40 CFR 124.10(d)(2)(iii) (See also 145.11(a)(28))		
(Applicable to State programs, see §145.11 (UIC).) In addition to the general public notice described in paragraph (d)(1) of this section, all persons identified in paragraphs (c)(1) (i), (ii), (iii), and (iv) of this section shall be mailed a copy of the fact sheet, the permit application (if any) and the draft permit (if any).	40 CFR 124.10(e) (See also 145.11(a)(28))		
§ 124.11 Public comments and requests for public hearings.			
(Applicable to State programs, see §145.11 (UIC).) During the public comment period provided under§ 124.10, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in § 124.17.	40 CFR 124.11 (See also 145.11(a)(29))		
§ 124.12 Public hearings.			
(Applicable to State programs, see §145.11 (UIC).) (1) The Director shall hold a public hearing whenever he or she finds, on the basis of requests, a significant degree of public interest in a draft permit(s);	40 CFR 124.12(a)(1) (See also 145.11(a)(30))		
The Director may also hold a public hearing at his or her discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision;	40 CFR 124.12(a)(2) (See also 145.11(a)(30))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
Public notice of the hearing shall be given as specified in § 124.10.	40 CFR 124.12(a)(4) (See also 145.11(a)(30))		
Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under § 124.10 shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.	40 CFR 124.12(c)		
A tape recording or written transcript of the hearing shall be made available to the public.	40 CFR 124.12(d)		
§ 124.17 Response to comments.			
(Applicable to State programs, see § 145.11 (UIC).) At the time that any final permit decision is issued under § 124.15, the Director shall issue a response to comments. States are only required to issue a response to comments when a final permit is issued. This response shall:	40 CFR 124.17(a) (See also 145.11(a)(31))		
Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and	40 CFR 124.17(a)(1) (See also 145.11(a)(31))		
Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.	40 CFR 124.17(a)(2) (See also 145.11(a)(31))		
(Applicable to State programs, see §145.11 (UIC).) The response to comments shall be available to the public.	40 CFR 124.17(c) (See also 145.11(a)(31))		
PART 144--UNDERGROUND INJECTION CONTROL PROGRAM			
SUBPART A--GENERAL PROVISIONS			
40 CFR 144.1 Purpose and scope of Part 144.			
Subpart H of 40 CFR 146 sets forth requirements for owners or operators of Class VI injection wells.	40 CFR 144.1(f)(1)(viii)		
Scope of the permit or rule requirement. The UIC permit program regulates underground injection by six classes of wells (see	40 CFR 144.1(g)		Note that states are not expected to have language equivalent to this section, as the requirements mentioned

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
definition of ‘‘well injection,’’ 40 CFR 144.3). The six classes of wells are set forth in 40 CFR 144.6. All owners or operators of these injection wells must be authorized either by permit or rule by the Director. In carrying out the mandate of the SDWA, this subpart provides that no injection shall be authorized by permit or rule if it results in the movement of fluid containing any contaminant into underground sources of drinking water (USDWs –see 40 CFR 144.3 for definition), if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 141 or may adversely affect the health of persons (40 CFR 144.12). Existing Class IV wells which inject hazardous waste directly into an underground source of drinking water are to be eliminated over a period of six months and new such Class IV wells are to be prohibited (40 CFR 144.13). For Class V wells, if remedial action appears necessary, a permit may be required (40 CFR 144.25) or the Director must require remedial action or closure by order (40 CFR 144.6(c)). During UIC program development, the Director may identify aquifers and portions of aquifers which are actual or potential sources of drinking water. This will provide an aid to the Director in carrying out his or her duty to protect all USDWs. An aquifer is a USDW if it fits the definition under 40 CFR 144.3, even if it has not been “identified.” The Director may also designate “exempted aquifers” using the criteria in 40 CFR 146.4 of this chapter. Such aquifers are those which would otherwise qualify as “underground sources of drinking water” to be protected, but which have no real potential to be used as drinking water sources. Therefore, they are not USDWs. No aquifer is an exempted aquifer until it has been affirmatively designated under the procedures at 40 CFR 144.7. Aquifers which do not fit the definition of “underground source of drinking water” are not “exempted aquifers.” They are simply not subject to the special protection afforded USDWs. During initial Class VI program development, the Director shall not expand the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for Class VI injection wells and EPA shall not approve a program that applies for aquifer exemption expansions of Class II-Class VI exemptions as part of the program description. All Class II to Class VI aquifer exemption expansions previously issued by EPA must be incorporated into the			here are described in more detail in other parts of the regulation. They are included here to provide background on and a summary of the UIC program.

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
Class VI program descriptions pursuant to requirements at 40 CFR 145.23(f)(9).***			
40 CFR 144.3 Definitions.			
Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.			This language is required only if the state's regulation does not explicitly use the term "EPA Administrator" when referring to the EPA Administrator. For example, if the state refers to the EPA Administrator as simply "the Administrator," this definition is required. If the state uses the term "EPA Administrator" in its rule language, no definition is required.
Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in approved States, including any approved modifications or revisions.			
Approved State Program means a UIC program administered by the State or Indian Tribe that has been approved by EPA according to SDWA sections 1422 and/or 1425.			
Aquifer means a geological "formation," group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.			
Contaminant means any physical, chemical, biological, or radiological substance or matter in water.			
Director means the Regional Administrator, the State director or the Tribal director as the context requires, or an authorized representative. When there is no approved State or Tribal program, and there is an EPA administered program, "Director" means the Regional Administrator. When there is an approved State or Tribal program, "Director" normally means the State or Tribal director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State or Tribal program. In such cases, the term "Director" means the Regional Administrator and not the State or Tribal director.			
Draft permit means a document prepared under §124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to			

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
terminate a permit, and a notice of intent to deny a permit, as discussed in §124.5 are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in §124.5 is not a "draft permit."			
Drilling mud means a heavy suspension used in drilling an "injection well," introduced down the drill pipe and through the drill bit.			
Eligible Indian Tribe is a Tribe that meets the statutory requirements established at 42 U.S.C. 300j-11(b)(1).			
Environmental Protection Agency ("EPA") means the United States Environmental Protection Agency.			
Exempted aquifer means an "aquifer" or its portion that meets the criteria in the definition of "underground source of drinking water" but which has been exempted according to the procedures in §144.7.			
Existing injection well means an "injection well" other than a "new injection well."			This definition is optional if the state does not distinguish between new and existing injection wells.
Facility or activity means any UIC "injection well," or an other facility or activity that is subject to regulation under the UIC program.			
Fluid means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.			
Formation means a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.			
Formation fluid means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids, such as "drilling mud."			
Geologic sequestration means the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.			

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Ground water means water below the land surface in a zone of saturation.			
Hazardous waste means a hazardous waste as defined in 40 CFR 261.3.			
Indian Tribe means any Indian Tribe having a Federally recognized governing body carrying out substantial governmental duties and powers over a defined area.			
Injection well means a "well" into which "fluids" are being injected.			
New injection wells means an "injection well" which began injection after a UIC program for the State applicable to the well is approved or prescribed.			This language is optional if the state regulation does not distinguish between new and existing wells.
Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the UIC program.			
Permit means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of this part, parts 145, 146 and 124. "Permit" includes an area permit (§144.33) and an emergency permit (§144.34). Permit does not include UIC authorization by rule (§144.21), or any permit which has not yet been the subject of final agency action, such as a "draft permit."			
Person means an individual, association, partnership, corporation, municipality, state, federal, or tribal agency, or an agency or employee thereof			
RCRA means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94–580, as amended by Pub. L. 95–609, Pub. L. 96–510, 42 U.S.C. 6901 *et seq*.).			
Regional Administrator means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator.			This language is required only if the state's regulation does not explicitly use the term "EPA Regional Administrator" when referring to the EPA Regional Administrator. For example, if the state refers to the EPA Regional Administrator as simply "the Regional Administrator," this definition is required. If the state uses the term "EPA Regional Administrator" in its rule

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			language, no definition is required.
SDWA means the Safe Drinking Water Act (Pub. L. 93–523, as amended; 42 U.S.C. 300f *et seq*.).			
Site means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.			
State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, or an Indian Tribe treated as a State.			
State Director means the chief administrative officer of any State, interstate, or Tribal agency operating an "approved program," or the delegated representative of the State director. If the responsibility is divided among two or more States, interstate, or Tribal agencies, "State Director" means the chief administrative officer of the State, interstate, or Tribal agency authorized to perform the particular procedure or function to which reference is made.			
Stratum (plural strata) means a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.			
Total dissolved solids means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR part 136.			
UIC means the Underground Injection Control program under Part C of the Safe Drinking Water Act, including an "approved State program."			
Underground injection means a "well injection."			
Underground source of drinking water (USDW) means an aquifer or its portion: (a)(1) Which supplies any public water system; or (2) Which contains a sufficient quantity of ground water to supply a public water system; and (i) Currently supplies drinking water for human consumption; or (ii) Contains fewer than 10,000 mg/l total dissolved solids; and			

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(b) Which is not an exempted aquifer.			
Well means: A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.			
Well injection means the subsurface emplacement of fluids through a well.			
40 CFR 144.6 Classification of wells.			
Injection wells are classified as follows:	40 CFR 144.6 (See also 145.11(a)(2))		
Class II. Wells which inject fluids:	40 CFR 144.6(b) (See also 145.11(a)(2))		
Which are brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.	40 CFR 144.6(b)(1) (See also 145.11(a)(2))		
For enhanced recovery of oil or natural gas; and	40 CFR 144.6(b)(2) (See also 145.11(a)(2))		
For storage of hydrocarbons which are liquid at standard temperature and pressure.	40 CFR 144.6(b)(3) (See also 145.11(a)(2))		
Class V. Injection wells not included in Class I, II, III, IV, or VI. Specific types of Class V injection wells are described in 40 CFR 144.81.	40 CFR 144.6(e) (See also 145.11(a)(2))		
Class VI. Wells that are not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW; or, wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at § 146.95 of this chapter; or, wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to §§ 146.4 of this chapter and 144.7(d).	40 CFR 144.6(f) (See also 145.11(a)(2))		

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40 CFR 144.7 Identification of underground sources of drinking water and exempted aquifers.			
The Director may identify (by narrative description, illustrations, maps, or other means) and shall protect as underground sources of drinking water, all aquifers and parts of aquifers which meet the definition of ''underground source of drinking water'' in § 144.3, except to the extent there is an applicable aquifer exemption under paragraph (b) of this section or an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration under paragraph (d) of this section. Other than EPA approved aquifer exemption expansions that meet the criteria set forth in § 146.4(d) of this chapter, new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the Director, it is an underground source of drinking water if it meets the definition in § 144.3.	40 CFR 144.7(a) (See also 145.11(a)(3))		
The Director may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the Director proposes to designate as exempted aquifers using the criteria in 40 CFR 146.4.	40 CFR 144.7(b)(1) (See also 145.11(a)(3))		
No designation of an exempted aquifer submitted as part of a UIC program shall be final until approved by the Administrator as part of a UIC program. No designation of an expansion to the areal extent of a Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration shall be final until approved by the Administrator as a revision to the applicable Federal UIC program under part 147 or as a substantial revision of an approved State UIC program in accordance with § 145.32 of this chapter.	40 CFR 144.7(b)(2) (See also 145.11(a)(3))		
Expansion to the areal extent of existing Class II aquifer exemptions for Class VI wells. Owners or operators of Class II enhanced oil recovery or enhanced gas recovery wells may request that the Director approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil	40 CFR 144.7(d) (See also 145.11(a)(3))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
recovery or enhanced gas recovery well for the exclusive purpose of Class VI injection for geologic sequestration. Such requests must be treated as a revision to the applicable Federal UIC program under part 147 or as a substantial program revision to an approved State UIC program under § 145.32 of this chapter and will not be final until approved by EPA.			
The owner or operator of a Class II enhanced oil recovery or enhanced gas recovery well that requests an expansion of the areal extent of an existing aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration must define (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) that are clear and definite, all aquifers or parts thereof that are requested to be designated as exempted using the criteria in § 146.4 of this chapter.	40 CFR 144.7(d)(1) (See also 145.11(a)(3))		
In evaluating a request to expand the areal extent of an aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of Class VI injection, the Director must determine that the request meets the criteria for exemptions in § 146.4. In making the determination, the Director shall consider:	40 CFR 144.7(d)(2) (See also 145.11(a)(3))		
Current and potential future use of the USDWs to be exempted as drinking water resources;	40 CFR 144.7(d)(2)(i) (See also 145.11(a)(3))		
The predicted extent of the injected carbon dioxide plume, and any mobilized fluids that may result in degradation of water quality, over the lifetime of the GS project, as informed by computational modeling performed pursuant to § 146.84(c)(1), in order to ensure that the proposed injection operation will not at any time endanger USDWs including non-exempted portions of the injection formation;	40 CFR 144.7(d)(2)(ii) (See also 145.11(a)(3))		
Whether the areal extent of the expanded aquifer exemption is of sufficient size to account for any possible revisions to the computational model during reevaluation of the area of review, pursuant to § 146.84(e); and	40 CFR 144.7(d)(2)(iii) (See also 145.11(a)(3))		
Any information submitted to support a waiver request made by the owner or operator under § 146.95, if appropriate.	40 CFR 144.7(d)(2)(iv) (See also 145.11(a)(3))		
40 CFR 144.8 Noncompliance and program reporting by the Director.			

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The Director shall prepare quarterly and annual reports as detailed below. When the State is the permit-issuing authority, the State Director shall submit any reports required under this section to the Regional Administrator. (a) *Quarterly reports.* The Director shall submit quarterly narrative reports for major facilities as follows:	40 CFR 144.8(a) (See also 145.11(a)(4))		States may choose not to include the requirements in 144.8 in their regulations; however, states will need to demonstrate that they have the authority to implement these requirements as required by 145.11(a)(4) by citing their statutory and regulatory authority here, and they will need to include these requirements and conditions in their memoranda of agreement with their respective EPA regional office (see 40 CFR 145.25 and 40 CFR 145.32(b)(1)). States may also be asked to describe how they plan to comply with the requirements in 144.8 in their program descriptions.
Format. The report shall use the following format: (i) Provide an alphabetized list of permittees. When two or more permittees have the same name, the lowest permit number shall be entered first.	40 CFR 144.8(a)(1)(i) (See also 145.11(a)(4))		See above.
For each entry on the list, include the following information in the following order: (A) Name, location, and permit number of the noncomplying permittees. (B) A brief description and date of each instance of noncompliance for that permittee. Instances of noncompliance may include one or more the kinds set forth in paragraph (a)(2) of this section. When a permittee has noncompliance of more than one kind, combine the information into a single entry for each such permittee. (C) The date(s) and a brief description of the action(s) taken by the Director to ensure compliance. (D) Status of the instance(s) of noncompliance with the date of the review of the status or the date of resolution. (E) Any details which tend to explain or mitigate the instance(s) of noncompliance.	40 CFR 144.8(a)(1)(ii) (See also 145.11(a)(4))		See above.
Instances of noncompliance to be reported. Any instances of noncompliance within the following categories shall be reported in	40 CFR 144.8(a)(2) (See also 145.11(a)(4))		See above.

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.			
Failure to complete construction elements. When the permittee has failed to complete, by the date specified in the permit, an element of a compliance schedule involving either planning for construction or a construction step (for example, begin construction, attain operation level); and the permittee has not returned to compliance by accomplishing the required elements of the schedule within 30 days from the date a compliance schedule report is due under the permit.	40 CFR 144.8(a)(2)(i) (See also 145.11(a)(4))		See above.
Modifications to schedules of compliance. When a schedule of compliance in the permit has been modified under §§144.39 or 144.41 because of the permittee's noncompliance.	40 CFR 144.8(a)(2)(ii) (See also 145.11(a)(4))		See above.
Failure to complete or provide compliance schedule or monitoring reports. When the permittee has failed to complete or provide a report required in a permit compliance schedule (for example, progress report or notice of noncompliance or compliance) or a monitoring report; and the permittee has not submitted the complete report within 30 days from the date it is due under the permit for compliance schedules, or from the date specified in the permit for monitoring reports.	40 CFR 144.8(a)(2)(iii) (See also 145.11(a)(4))		See above.
Deficient reports. When the required reports provided by the permittee are so deficient as to cause misunderstanding by the Director and thus impede the review of the status of compliance.	40 CFR 144.8(a)(2)(iv) (See also 145.11(a)(4))		See above.
Noncompliance with other permit requirements. Noncompliance shall be reported in the following circumstances: (A) Whenever the permittee has violated a permit requirement (other than reported under paragraph (a)(2) (i) or (ii) of this section), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the permit; or (B) When the Director determines that a pattern of noncompliance exists for a major facility permittee over the most recent four consecutive reporting periods. This pattern includes any violation of the same requirement in two consecutive reporting periods, and	40 CFR 144.8(a)(2)(v) (See also 145.11(a)(4))		See above.

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
any violation of one or more requirements in each of four consecutive reporting periods; or (C) When the Director determines significant permit noncompliance or other significant event has occurred, such as a migration of fluids into a USDW.			
All other. Statistical information shall be reported quarterly on all other instances of noncompliance by major facilities with permit requirements not otherwise reported under paragraph (a) of this section.	40 CFR 144.8(a)(2)(vi) (See also 145.11(a)(4))		See above.
Annual reports — (1) *Annual noncompliance report.* Statistical reports shall be submitted by the Director on nonmajor UIC permittees indicating the total number reviewed, the number of noncomplying nonmajor permittees, the number of enforcement actions, and number of permit modifications extending compliance deadlines. The statistical information shall be organized to follow the types of noncompliance listed in paragraph (a) of this section.	40 CFR 144.8(b)(1) (See also 145.11(a)(4))		See above.
For State-administered UIC Programs only. In addition to the annual noncompliance report, the State Director shall: Submit each year a program report to the Administrator (in a manner and form prescribed by the Administrator) consisting of:	40 CFR 144.8(b)(2)(i) (See also 145.11(a)(4))		See above.
A detailed description of the State's implementation of its program;	40 CFR 144.8(b)(2)(i)(A) (See also 145.11(a)(4))		See above.
Suggested changes, if any to the program description (see § 145.23(f)) which are necessary to reflect more accurately the State's progress in issuing permits;	40 CFR 144.8(b)(2)(i)(B) (See also 145.11(a)(4))		See above.
An updated inventory of active underground injection operations in the State.	40 CFR 144.8(b)(2)(i)(C) (See also 145.11(a)(4))		See above.
All Class VI program reports shall be consistent with reporting requirements set forth in §146.91 of this chapter.	40 CFR 144.8(b)(2)(iii) (See also 145.11(a)(4))		See above.
Schedule. (1) For all quarterly reports. On the last working day of May, August, November, and February, the State Director shall	40 CFR 144.8(c)(1) (See also 145.11(a)(4))		See above.

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
submit to the Regional Administrator information concerning noncompliance with permit requirements by major facilities in the State in accordance with the following schedule. The Regional Administrator shall prepare and submit information for EPA-issued permits to EPA Headquarters in accordance with the same schedule. QUARTERS COVERED BY REPORTS ON NONCOMPLIANCE BY MAJOR FACILITIES [Date for completion of reports] January, February, and March ..... 1 May 31 April, May, and June ..... 1 Aug. 31 July, August, and September ..... 1 Nov. 30 October, November, and December ..... 1 Feb. 28 1 Reports must be made available to the public for inspection and copying on this date.			
For all annual reports. The period for annual reports shall be for the calendar year ending December 31, with reports completed and available to the public no more than 60 days later.	40 CFR 144.8(c)(2) (See also 145.11(a)(4))		See above.
SUBPART B--GENERAL PROGRAM REQUIREMENTS			
40 CFR 144.11 Prohibition of unauthorized injection.			
Any underground injection, except into a well authorized by rule or except as authorized by permit issued under the UIC program, is prohibited. The construction of any well required to have a permit is prohibited until the permit has been issued.	40 CFR 144.11 (See also 145.11(a)(5))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
40 CFR 144.12 Prohibition of movement of fluid into underground sources of drinking water.			
No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this paragraph are met.	40 CFR 144.12(a) (See also 145.11(a)(6))		
For Class I, II, III, and VI wells, if any water quality monitoring of an underground source of drinking water indicates the movement of any contaminant into the underground source of drinking water, except as authorized under part 146, the Director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit in accordance with §144.39, or the permit may be terminated under §144.40 if cause exists, or appropriate enforcement action may be taken if the permit has been violated.	40 CFR 144.12(b) (See also 145.11(a)(6))		
Notwithstanding any other provision of this section, the Director may take emergency action upon receipt of information that a contaminant which is present in or likely to enter a public water system or underground source of drinking water may present an imminent and substantial endangerment to the health of persons.	40 CFR 144.12(e) (See also 145.11(a)(6))		
40 CFR 144.15 Prohibition of non-experimental Class V wells for geologic sequestration.			
The construction, operation or maintenance of any non-experimental Class V geologic sequestration well is prohibited.	40 CFR 144.15		
40 CFR 144.16 Waiver of requirement by Director.			
When injection does not occur into, through or above an underground source of drinking water, the Director may authorize a well or project with less stringent requirements for area of review, construction, mechanical integrity, operation, monitoring,	40 CFR 144.16(a)		

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and reporting than required in 40 CFR part 146 or § 144.52 to the extent that the reduction in requirements will not result in an increased risk of movement of fluids into an underground source of drinking water.			
When injection occurs through or above an underground source of drinking water, but the radius of endangering influence when computed under § 146.06(a) is smaller or equal to the radius of the well, the Director may authorize a well or project with less stringent requirements for operation, monitoring, and reporting than required in 40 CFR part 146 or § 144.52 to the extent that the reduction in requirements will not result in an increased risk of movement of fluids into an underground source of drinking water.	40 CFR 144.16(b)		
When reducing requirements under paragraph (a) or (b) of this section, the Director shall prepare a fact sheet under § 124.8 explaining the reasons for the action.	40 CFR 144.16(c)		
40 CFR 144.17 Records.			
The Director or the Administrator may require, by written notice on a selective well-by-well basis, an owner or operator of an injection well to establish and maintain records, make reports, conduct monitoring, and provide other information as is deemed necessary to determine whether the owner or operator has acted or is acting in compliance with Part C of the SDWA or its implementing regulations.	40 CFR 144.17		
40 CFR 144.18 Requirements for Class VI wells.			
Owners or operators of Class VI wells must obtain a permit. Class VI wells cannot be authorized by rule to inject carbon dioxide.	40 CFR 144.18		
40 CFR 144.19 Transitioning from Class II to Class VI.			
Owners or operators that are injecting carbon dioxide for the primary purpose of long- term storage into an oil and gas reservoir must apply for and obtain a Class VI geologic sequestration permit when there is an increased risk to USDWs compared to Class II operations. In determining if there is an increased risk to USDWs, the owner or operator must consider the factors specified in §144.19(b).	40 CFR 144.19(a)		

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The Director shall determine when there is an increased risk to USDWs compared to Class II operations and a Class VI permit is required. In order to make this determination the Director must consider the following:	40 CFR 144.19(b)		
Increase in reservoir pressure within the injection zone(s);	40 CFR 144.19(b)(1)		
Increase in carbon dioxide injection rates;	40 CFR 144.19(b)(2)		
Decrease in reservoir production rates;	40 CFR 144.19(b)(3)		
Distance between the injection zone(s) and USDWs;	40 CFR 144.19(b)(4)		
Suitability of the Class II area of review delineation;	40 CFR 144.19(b)(5)		
Quality of abandoned well plugs within the area of review;	40 CFR 144.19(b)(6)		
The owner's or operator's plan for recovery of carbon dioxide at the cessation of injection;	40 CFR 144.19(b)(7)		
The source and properties of injected carbon dioxide; and	40 CFR 144.19(b)(8)		
Any additional site-specific factors as determined by the Director.	40 CFR 144.19(b)(9)		
SUBPART C--AUTHORIZATION OF UNDERGROUND INJECTION BY RULE			
40 CFR 144.22 Existing Class II enhanced recovery and hydrocarbon storage wells.			
Duration of well authorization by rule. Well authorization under this section expires upon the effective date of a permit issued pursuant to 40 CFR 144.19, 144.25, 144.31, 144.33 or 144.34; after plugging and abandonment in accordance with an approved plugging and abandonment plan pursuant to 40 CFR 144.28(c) and 146.10; and upon submission of a plugging and abandonment report pursuant to 40 CFR 144.28(k); or upon conversion in compliance with 40 CFR 144.28(j).	40 CFR 144.22(b)		
SUBPART D--AUTHORIZATION BY PERMIT			
40 CFR 144.31 Application for a permit; authorization by permit.			
Permit application. Unless an underground injection well is authorized by rule under subpart C of this part, all injection activities including construction of an injection well are prohibited until the owner or operator is authorized by permit. An owner or operator of a well currently authorized by rule must apply for a	40 CFR 144.31(a) (See also 145.11(a)(10))		Note that the last sentence in this provision does not apply to Class VI programs. It applies to Class I hazardous programs.

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permit under this section unless well authorization by rule was for the life of the well or project. Authorization by rule for a well or project for which a permit application has been submitted terminates for the well or project upon the effective date of the permit. Procedures for applications, issuance and administration of emergency permits are found exclusively in § 144.34. A RCRA permit applying the standards of part 264, subpart C of this chapter will constitute a UIC permit for hazardous waste injection wells for which the technical standards in part 146 of this chapter are not generally appropriate.			
Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.	40 CFR 144.31(b) (See also 145.11(a)(10))		
Time to apply. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the Director in accordance with the UIC program as follows:	40 CFR 144.31(c) (See also 145.11(a)(10))		
For existing wells, as expeditiously as practicable and in accordance with the schedule in any program description under § 145.23(f), but no later than 4 years from the approval or promulgation of the UIC program.	40 CFR 144.31(c)(1) (See also 145.11(a)(10))		
For new injection wells, except new wells in projects authorized under § 144.21(d) or authorized by an existing area permit under § 144.33(c), a reasonable time before construction is expected to begin.	40 CFR 144.31(c)(2) (See also 145.11(a)(10))		
Completeness. The Director shall not issue a permit before receiving a complete application for a permit except for emergency permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.	40 CFR 144.31(d) (See also 145.11(a)(10))		Note that emergency permits will not be granted for Class VI wells.
Information requirements. All applicants for Class I, II, III, and V permits shall provide the following information to the Director, using the application form provided by the Director. Applicants for	40 CFR 144.31(e) (See also 145.11(a)(10))		

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Class VI permits shall follow the criteria provided in §146.82 of this chapter.			
The activities conducted by the applicant which require it to obtain permits under RCRA, UIC, the National Pollution Discharge Elimination system (NPDES) program under the Clean Water Act, or the Prevention of Significant Deterioration (PSD) program under the Clean Air Act.	40 CFR 144.31(e)(1) (See also 145.11(a)(10))		
Name, mailing address, and location of the facility for which the application is submitted.	40 CFR 144.31(e)(2) (See also 145.11(a)(10))		
Up to four SIC codes which best reflect the principal products or services provided by the facility.	40 CFR 144.31(e)(3) (See also 145.11(a)(10))		
The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.	40 CFR 144.31(e)(4) (See also 145.11(a)(10))		
Whether the facility is located on Indian lands.	40 CFR 144.31(e)(5) (See also 145.11(a)(10))		
A listing of all permits or construction approvals received or applied for under any of the following programs:	40 CFR 144.31(e)(6) (See also 145.11(a)(10))		
Hazardous Waste Management program under RCRA.	40 CFR 144.31(e)(6)(i) (See also 145.11(a)(10))		
UIC program under SDWA.	40 CFR 144.31(e)(6)(ii) (See also 145.11(a)(10))		
NPDES program under CWA.	40 CFR 144.31(e)(6)(iii) (See also 145.11(a)(10))		
Prevention of Significant Deterioration (PSD) program under the Clean Air Act.	40 CFR 144.31(e)(6)(iv) (See also 145.11(a)(10))		
Nonattainment program under the Clean Air Act.	40 CFR 144.31(e)(6)(v) (See also 145.11(a)(10))		
National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.	40 CFR 144.31(e)(6)(vi) (See also 145.11(a)(10))		
Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.	40 CFR 144.31(e)(6)(vii) (See also 145.11(a)(10))		Note that this language is not required for land-locked states. Coastal states must include this language in their state regulations.

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Dredge and fill permits under section 404 of CWA.	40 CFR 144.31(e)(6)(viii) (See also 145.11(a)(10))		
Other relevant environmental permits, including State permits.	40 CFR 144.31(e)(6)(ix) (See also 145.11(a)(10))		
§ 144.32 Signatories to permit applications and reports.			
Applications. All permit applications, except those submitted for Class II wells (see paragraph (b) of this section), shall be signed as follows:	40 CFR 144.32(a) (See also 145.11(a)(11))		
For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means;	40 CFR 144.32(a)(1) (See also 145.11(a)(11))		
A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or	40 CFR 144.32(a)(1)(i) (See also 145.11(a)(11))		
the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. NOTE: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in § 144.32(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under § 144.32(a)(1)(ii) rather than to specific individuals.	40 CFR 144.32(a)(1)(ii) (See also 145.11(a)(11))		
For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or	40 CFR 144.32(a)(2) (See also 145.11(a)(11))		
For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:	40 CFR 144.32(a)(3) (See also 145.11(a)(11))		
The chief executive officer of the agency, or	40 CFR 144.32(a)(3)(i)		

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	(See also 145.11(a)(11))		
a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).	40 CFR 144.32(a)(3)(ii) (See also 145.11(a)(11))		
Reports. All reports required by permits, other information requested by the Director, and all permit applications submitted for Class II wells under § 144.31 shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:	40 CFR 144.32(b) (See also 145.11(a)(11))		
The authorization is made in writing by a person described in paragraph (a) of this section;	40 CFR 144.32(b)(1) (See also 145.11(a)(11))		
The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and	40 CFR 144.32(b)(2) (See also 145.11(a)(11))		
The written authorization is submitted to the Director.	40 CFR 144.32(b)(3) (See also 145.11(a)(11))		
Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.	40 CFR 144.32(c) (See also 145.11(a)(11))		
Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the	40 CFR 144.32(d) (See also 145.11(a)(11))		

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information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.			
40 CFR 144.33 Area permits.			
The Director may issue a permit on an area basis, rather than for each well individually, provided that the permit is for injection wells:	40 CFR 144.33(a) (See also 145.11(a)(12))		Note that area permits are not allowed for Class VI wells; area permit provisions are included in this crosswalk only to show that they are banned for Class VI.
Used to inject other than hazardous waste; and	40 CFR 144.33(a)(4) (See also 145.11(a)(12))		
Other than Class VI wells.	40 CFR 144.33(a)(5) (See also 145.11(a)(12))		
§ 144.35 Effect of a permit.			
Except for Class II and III wells, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Part C of the SDWA. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in §§ 144.39 and 144.40.	40 CFR 144.35(a) (See also 145.11(a)(14))		
The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.	40 CFR 144.35(b) (See also 145.11(a)(14))		
The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.	40 CFR 144.35(c) (See also 145.11(a)(14))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
40 CFR 144.36 Duration of permits.			
Permits for Class I and V wells shall be effective for a fixed term not to exceed 10 years. UIC permits for Class II and III wells shall be issued for a period up to the operating life of the facility. UIC permits for Class VI wells shall be issued for the operating life of the facility and the post-injection site care period. The Director shall review each issued Class II, III, and VI well UIC permit at least once every 5 years to determine whether it should be modified, revoked and reissued, terminated or a minor modification made as provided in §§144.39, 144.40, or 144.41.	40 CFR 144.36(a) (See also 145.11(a)(15))		
40 CFR 144.38 Transfer of permits.			
Transfers by modification. Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under § 144.39(b)(2)), or a minor modification made (under § 144.41(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act.	40 CFR 144.38(a) (See also 145.11(a)(16))		
Automatic transfers. As an alternative to transfers under paragraph (a) of this section, any UIC permit for a well not injecting hazardous waste or injecting carbon dioxide for geologic sequestration may be automatically transferred to a new permittee if:	40 CFR 144.38(b)		Note that automatic transfers are not permitted for Class VI. This provision is included only to show the language that prohibits them.
40 CFR 144.39 Modification or revocation and reissuance of permits.			
When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see § 144.51 of this chapter), receives a request for modification or revocation and reissuance under § 124.5, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in paragraphs (a) and (b) of this section for modification or revocation and reissuance or both exist. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is	40 CFR 144.39 (See also 145.11(a)(17))		

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revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. See § 124.5(c)(2) of this chapter. If cause does not exist under this section or § 144.41 of this chapter, the Director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in § 144.41 for ''minor modifications'' the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in part 124 must be followed.			
Causes for modification. The following are causes for modification. For Class I hazardous waste injection wells, Class II, Class III or Class VI wells the following may be causes for revocation and reissuance as well as modification; and for all other wells the following may be cause for revocation or reissuance as well as modification when the permittee requests or agrees.	40 CFR 144.39(a) (See also 145.11(a)(17))		
Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.	40 CFR 144.39(a)(1) (See also 145.11(a)(17))		
Information. The Director has received information. Permits other than for Class II and III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits (§ 144.33), this cause shall include any information indicating that cumulative effects on the environment are unacceptable.	40 CFR 144.39(a)(2) (See also 145.11(a)(17))		Note that area permits are prohibited for Class VI wells.
New regulations. The standards or regulations on which the permit was based have been changed by promulgation of new or amended standards or regulations or by judicial decision after the permit was issued. Permits other than for Class I hazardous waste injection wells, Class II, Class III or Class VI wells may be modified during their permit terms for this cause only as follows:	40 CFR 144.39(a)(3) (See also 145.11(a)(17))		
Compliance schedules. The Director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no	40 CFR 144.39(a)(4) (See also 145.11(a)(17))		

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reasonably available remedy. See also § 144.41(c) (minor modifications).			
Basis for modification of Class VI permits. Additionally, for Class VI wells, whenever the Director determines that permit changes are necessary based on:	40 CFR 144.39(a)(5) (See also 145.11(a)(17))		
Area of review reevaluations under §146.84(e)(1) of this chapter;	40 CFR 144.39(a)(5)(i) (See also 145.11(a)(17))		
Any amendments to the testing and monitoring plan under §146.90(j) of this chapter;	40 CFR 144.39(a)(5)(ii) (See also 145.11(a)(17))		
Any amendments to the injection well plugging plan under §146.92(c) of this chapter;	40 CFR 144.39(a)(5)(iii) (See also 145.11(a)(17))		
Any amendments to the post-injection site care and site closure plan under §146.93(a)(3) of this chapter;	40 CFR 144.39(a)(5)(iv) (See also 145.11(a)(17))		
Any amendments to the emergency and remedial response plan under §146.94(d) of this chapter; or	40 CFR 144.39(a)(5)(v) (See also 145.11(a)(17))		
A review of monitoring and/or testing results conducted in accordance with permit requirements.	40 CFR 144.39(a)(5)(vi) (See also 145.11(a)(17))		
Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:	40 CFR 144.39(b) (See also 145.11(a)(17))		
Cause exists for termination under § 144.40, and the Director determines that modification or revocation and reissuance is appropriate.	40 CFR 144.39(b)(1) (See also 145.11(a)(17))		
The Director has received notification (as required in the permit, see § 144.41(d)) of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer (§ 144.38(b)) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.	40 CFR 144.39(b)(2) (See also 145.11(a)(17))		Note that automatic transfers are not permitted for Class VI wells.
A determination that the waste being injected is a hazardous waste as defined in § 261.3 either because the definition has been revised, or because a previous determination has been changed.	40 CFR 144.39(b)(3) (See also 145.11(a)(17))		
Facility siting. Suitability of the facility location will not be	40 CFR 144.39(c)		

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considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.	(See also 145.11(a)(17))		
40 CFR 144.40 Termination of permits.			
The Director may terminate a permit during its term, or deny a permit renewal application for the following causes:	40 CFR 144.40(a) (See also 145.11(a)(18))		
Noncompliance by the permittee with any condition of the permit;	40 CFR 144.40(a)(1) (See also 145.11(a)(18))		
The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or	40 CFR 144.40(a)(2) (See also 145.11(a)(18))		
A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;	40 CFR 144.40(a)(3) (See also 145.11(a)(18))		
The Director shall follow the applicable procedures in part 124 in terminating any permit under this section.	40 CFR 144.40(b) (See also 145.11(a)(18))		
40 CFR 144.41 Minor modifications of permits.			
Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with part 124 draft permit and public notice as required in §144.39. Minor modifications may only:	40 CFR 144.41		
Correct typographical errors;	40 CFR 144.41(a)		
Require more frequent monitoring or reporting by the permittee;	40 CFR 144.41(b)		
Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or	40 CFR 144.41(c)		
Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is	40 CFR 144.41(d)		

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necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.			
Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the Director, would not interfere with the operation of the facility or its ability to meet conditions described in the permit and would not change its classification.	40 CFR 144.41(e)		
Change construction requirements approved by the Director pursuant to § 144.52(a)(1) (establishing UIC permit conditions), provided that any such alteration shall comply with the requirements of this part and part 146.	40 CFR 144.41(f)		
Amend a Class VI injection well testing and monitoring plan, plugging plan, post-injection site care and site closure plan, or emergency and remedial response plan where the modifications merely clarify or correct the plan, as determined by the Director.	40 CFR 144.41(h)		
SUBPART E--PERMIT CONDITIONS			
40 CFR 144.51 Conditions applicable to all permits.			
The following conditions apply to all UIC permits. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.	40 CFR 144.51 (See also 145.11(a)(19))		
Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; except that the permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit under §144.34.	40 CFR 144.51(a) (See also 145.11(a)(19))		Note that emergency permits mentioned in this provision will not be granted for Class VI wells.
Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.	40 CFR 144.51(b) (See also 145.11(a)(19))		

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Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.	40 CFR 144.51(c) (See also 145.11(a)(19))		
Duty to mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.	40 CFR 144.51(d) (See also 145.11(a)(19))		
Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.	40 CFR 144.51(e) (See also 145.11(a)(19))		
Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.	40 CFR 144.51(f) (See also 145.11(a)(19))		
Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.	40 CFR 144.51(g) (See also 145.11(a)(19))		
Duty to provide information. The permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.	40 CFR 144.51(h) (See also 145.11(a)(19))		
Inspection and entry. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:	40 CFR 144.51(i) (See also 145.11(a)(19))		
Enter upon the permittee's premises where a regulated facility or	40 CFR 144.51(i)(1)		

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activity is located or conducted, or where records must be kept under the conditions of this permit;	(See also 145.11(a)(19))		
Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;	40 CFR 144.51(i)(2) (See also 145.11(a)(19))		
Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and	40 CFR 144.51(i)(3) (See also 145.11(a)(19))		
Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.	40 CFR 144.51(i)(4) (See also 145.11(a)(19))		
Monitoring and records. (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.	40 CFR 144.51(j)(1) (See also 145.11(a)(19))		
The permittee shall retain records of all monitoring information, including the following:	40 CFR 144.51(j)(2) (See also 145.11(a)(19))		
Calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time; and	40 CFR 144.51(j)(2)(i) (See also 145.11(a)(19))		
The nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures specified under §144.52(a)(6), or under part 146 subpart G as appropriate. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.	40 CFR 144.51(j)(2)(ii) (See also 145.11(a)(19))		
Records of monitoring information shall include:	40 CFR 144.51(j)(3) (See also 145.11(a)(19))		
The date, exact place, and time of sampling or measurements;	40 CFR 144.51(j)(3)(i) (See also 145.11(a)(19))		
The individual(s) who performed the sampling or measurements;	40 CFR 144.51(j)(3)(ii) (See also 145.11(a)(19))		

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The date(s) analyses were performed;	40 CFR 144.51(j)(3)(iii) (See also 145.11(a)(19))		
The individual(s) who performed the analyses;	40 CFR 144.51(j)(3)(iv) (See also 145.11(a)(19))		
The analytical techniques or methods used; and	40 CFR 144.51(j)(3)(v) (See also 145.11(a)(19))		
The results of such analyses.	40 CFR 144.51(j)(3)(vi) (See also 145.11(a)(19))		
Owners or operators of Class VI wells shall retain records as specified in subpart H of part 146, including §§146.84(g), 146.91(f), 146.92(d), 146.93(f), and 146.93(h) of this chapter.	40 CFR 144.51(j)(4) (See also 145.11(a)(19))		
Signatory requirement. All applications, reports, or information submitted to the Administrator shall be signed and certified. (See §144.32.)	40 CFR 144.51(k) (See also 145.11(a)(19))		
Reporting requirements. (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.	40 CFR 144.51(l)(1) (See also 145.11(a)(19))		
Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.	40 CFR 144.51(l)(2) (See also 145.11(a)(19))		
Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act. (See §144.38; in some cases, modification or revocation and reissuance is mandatory.)	40 CFR 144.51(l)(3) (See also 145.11(a)(19))		
Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.	40 CFR 144.51(l)(4) (See also 145.11(a)(19))		
Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each schedule date.	40 CFR 144.51(l)(5) (See also 145.11(a)(19))		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment, including:	40 CFR 144.51(l)(6) (See also 145.11(a)(19))		
Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW; or	40 CFR 144.51(l)(6)(i) (See also 145.11(a)(19))		
Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.	40 CFR 144.51(l)(6)(ii) (See also 145.11(a)(19))		
Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (l) (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.	40 CFR 144.51(l)(7) (See also 145.11(a)(19))		
Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.	40 CFR 144.51(l)(8) (See also 145.11(a)(19))		
Requirements prior to commencing injection. Except for all new wells authorized by an area permit under §144.33(c), a new injection well may not commence injection until construction is complete, and	40 CFR 144.51(m) (See also 145.11(a)(19))		
The permittee has submitted notice of completion of construction to the Director; and	40 CFR 144.51(m)(1) (See also 145.11(a)(19))		
The Director has inspected or otherwise reviewed the new injection	40 CFR 144.51(m)(2)(i)		

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well and finds it is in compliance with the conditions of the permit; or	(See also 145.11(a)(19))		
The permittee has not received notice form the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in paragraph (m)(1) of this section, in which case prior inspection or review is waived and the permittee may commence injection. The Director shall include in his notice a reasonable time period in which he shall inspect the well.	40 CFR 144.51(m)(2)(ii) (See also 145.11(a)(19))		
The permittee shall notify the Director at such times as the permit requires before conversion or abandonment of the well or in the case of area permits before closure of the project.	40 CFR 144.51(n) (See also 145.11(a)(19))		
A Class I, II or III permit shall include and a Class V permit may include conditions which meet the applicable requirements of §146.10 of this chapter to ensure that plugging and abandonment of the well will not allow the movement of fluids into or between USDWs. Where the plan meets the requirements of §146.10 of this chapter, the Director shall incorporate the plan into the permit as a permit condition. Where the Director's review of an application indicates that the permittee's plan is inadequate, the Director may require the applicant to revise the plan, prescribe conditions meeting the requirements of this paragraph, or deny the permit. A Class VI permit shall include conditions which meet the requirements set forth in §146.92 of this chapter. Where the plan meets the requirements of §146.92 of this chapter, the Director shall incorporate it into the permit as a permit condition. For purposes of this paragraph, temporary or intermittent cessation of injection operations is not abandonment.	40 CFR 144.51(o) (See also 145.11(a)(19))		
Duty to establish and maintain mechanical integrity. The owner or operator of a Class I, II, III or VI well permitted under this part shall establish mechanical integrity prior to commencing injection or on a schedule determined by the Director. Thereafter the owner or operator of Class I, II, and III wells must maintain mechanical integrity as defined in §146.8 of this chapter and the owner or operator of Class VI wells must maintain mechanical integrity as defined in §146.89 of this chapter.	40 CFR 144.51(q)(1) (See also 145.11(a)(19))		

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When the Director determines that a Class I, II, III or VI well lacks mechanical integrity pursuant to §§146.8 or 146.89 of this chapter for Class VI of this chapter, he/she shall give written notice of his/her determination to the owner or operator. Unless the Director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the Director's determination. The Director may allow plugging of the well pursuant to the requirements of §146.10 of this chapter or require the permittee to perform such additional construction, operation, monitoring, reporting and corrective action as is necessary to prevent the movement of fluid into or between USDWs caused by the lack of mechanical integrity. The owner or operator may resume injection upon written notification from the Director that the owner or operator has demonstrated mechanical integrity pursuant to §146.8 of this chapter.	40 CFR 144.51(q)(2) (See also 145.11(a)(19))		
40 CFR 144.52 Establishing permit conditions.			
In addition to conditions required in §144.51, the Director shall establish conditions, as required on a case-by-case basis under §144.36 (duration of permits), §144.53(a) (schedules of compliance), §144.54 (monitoring). Permits for owners or operators of Class VI injection wells shall include conditions meeting the requirements of subpart H of part 146. Permits for other wells shall contain the following requirements, when applicable.	40 CFR 144.52(a) (See also 145.11(a)(20))		
Construction requirements as set forth in part 146. Existing wells shall achieve compliance with such requirements according to a compliance schedule established as a permit condition. The owner or operator of a proposed new injection well shall submit plans for testing, drilling, and construction as part of the permit application. Except as authorized by an area permit, no construction may commence until a permit has been issued containing construction requirements (see §144.11). New wells shall be in compliance with these requirements prior to commencing injection operations. Changes in construction plans during construction may be approved by the Administrator as minor modifications (§144.41). No such changes may be physically incorporated into construction	40 CFR 144.52(a)(1) (See also 145.11(a)(20))		

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of the well prior to approval of the modification by the Director.			
Corrective action as set forth in §§144.55, 146.7, and 146.84 of this chapter.	40 CFR 144.52(a)(2) (See also 145.11(a)(20))		
Operation requirements as set forth in 40 CFR part 146; the permit shall establish any maximum injection volumes and/or pressures necessary to assure that fractures are not initiated in the confining zone, that injected fluids do not migrate into any underground source of drinking water, that formation fluids are not displaced into any underground source of drinking water, and to assure compliance with the part 146 operating requirements.	40 CFR 144.52(a)(3) (See also 145.11(a)(20))		
Monitoring and reporting requirements as set forth in 40 CFR part 146. The permittee shall be required to identify types of tests and methods used to generate the monitoring data.	40 CFR 144.52(a)(5) (See also 145.11(a)(20))		
Financial responsibility. (i) The permittee, including the transferor of a permit, is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director until:	40 CFR 144.52(a)(7)(i) (See also 145.11(a)(20))		
The well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to §§144.51(o), 146.10, and 146.92 of this chapter, and submitted a plugging and abandonment report pursuant to §144.51(p); or	40 CFR 144.52(a)(7)(i)(A) (See also 145.11(a)(20))		
The well has been converted in compliance with the requirements of §144.51(n); or	40 CFR 144.52(a)(7)(i)(B) (See also 145.11(a)(20))		
The transferor of a permit has received notice from the Director that the owner or operator receiving transfer of the permit, the new permittee, has demonstrated financial responsibility for the well.	40 CFR 144.52(a)(7)(i)(C) (See also 145.11(a)(20))		
The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance, such as a financial statement or other materials acceptable to the Director. The owner or operator of a well injecting hazardous waste must comply with the financial responsibility requirements of subpart F of this part. For Class VI wells, the permittee shall show evidence of such	40 CFR 144.52(a)(7)(ii) (See also 145.11(a)(20))		

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financial responsibility to the Director by the submission of a qualifying instrument (see §146.85(a) of this chapter), such as a financial statement or other materials acceptable to the Director. The owner or operator of a Class VI well must comply with the financial responsibility requirements set forth in §146.85 of this chapter.			
Mechanical integrity. A permit for any Class I, II, III or VI well or injection project which lacks mechanical integrity shall include, and for any Class V well may include, a condition prohibiting injection operations until the permittee shows to the satisfaction of the Director under §§146.8, or 146.89 for Class VI, that the well has mechanical integrity.	40 CFR 144.52(a)(8) (See also 145.11(a)(20))		
Additional conditions. The Director shall impose on a case-by-case basis such additional conditions as are necessary to prevent the migration of fluids into underground sources of drinking water.	40 CFR 144.52(a)(9) (See also 145.11(a)(20))		
In addition to conditions required in all permits the Director shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the SDWA and parts 144, 145, 146 and 124.	40 CFR 144.52(b)(1) (See also 145.11(a)(20))		
For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of the permit. For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in §144.39.	40 CFR 144.52(b)(2) (See also 145.11(a)(20))		
New or reissued permits, and to the extent allowed under §144.39 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in §144.52.	40 CFR 144.52(b)(3) (See also 145.11(a)(20))		
Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.	40 CFR 144.52(c) (See also 145.11(a)(20))		
40 CFR 144.53 Schedule of compliance.			
General. The permit may, when appropriate, specify a schedule of	40 CFR 144.53(a)		

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compliance leading to compliance with the SDWA and parts 144, 145, 146, and 124.	(See also 145.11(a)(21))		
Time for compliance. Any schedules of compliance shall require compliance as soon as possible, and in no case later than 3 years after the effective date of the permit.	40 CFR 144.53(a)(1) (See also 145.11(a)(21))		
Interim dates. Except as provided in paragraph (b)(1)(ii) of this section, if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.	40 CFR 144.53(a)(2) (See also 145.11(a)(21))		
The time between interim dates shall not exceed 1 year.	40 CFR 144.53(a)(2)(i) (See also 145.11(a)(21))		
If the time necessary for completion of any interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.	40 CFR 144.53(a)(2)(ii) (See also 145.11(a)(21))		
Reporting. The permit shall be written to require that if paragraph (a)(1) of this section is applicable, progress reports be submitted no later than 30 days following each interim date and the final date of compliance.	40 CFR 144.53(a)(3) (See also 145.11(a)(21))		
40 CFR 144.54 Requirements for recording and reporting of monitoring results.			
All permits shall specify: Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);	40 CFR 144.54(a) (See also 145.11(a)(22))		
Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including when appropriate, continuous monitoring;	40 CFR 144.54(b) (See also 145.11(a)(22))		
Applicable reporting requirements based upon the impact of the regulated activity and as specified in part 146. Reporting shall be no less frequent than specified in the above regulations.	40 CFR 144.54(c) (See also 145.11(a)(22))		

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PART 146--UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS			
SUBPART A--GENERAL PROVISIONS			
40 CFR 146.1 Applicability and scope.			
(a) This part sets forth technical criteria and standards for the Underground Injection Control Program. This part should be read in conjunction with 40 CFR parts 124, 144, and 145, which also apply to UIC programs. 40 CFR part 144 defines the regulatory framework of EPA administered permit programs. 40 CFR part 145 describes the elements of an approvable State program and procedures for EPA approval of State participation in the permit programs. 40 CFR part 124 describes the procedures the Agency will use for issuing permits under the covered programs. Certain of these procedures will also apply to State-administered programs as specified in 40 CFR part 145.	40 CFR 146.1(a)		Note that states are not expected to have language equivalent to this section. This provision is included here to provide background on the UIC program.
Upon the approval, partial approval or promulgation of a State UIC program by the Administrator, any underground injection which is not authorized by the Director by rule or by permit is unlawful.	40 CFR 146.1(b)		
40 CFR 146.3 Definitions			
Abandoned well means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.			
Casing means a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas, or other fluid from entering or leaving the hole.			
Cementing means the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.			
Effective date of a UIC program means the date that a State UIC program is approved or established by the Administrator.			
Experimental technology means a technology which has not been proven feasible under the conditions in which it is being tested.			
Fault means a surface or zone of rock fracture along which there			

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has been displacement.			
Flow rate means the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.			
Lithology means the description of rocks on the basis of their physical and chemical characteristics.			
Owner or operator means the owner or operator of any facility or activity subject to regulation under the RCRA, UIC, NPDES, or 404 programs.			
Packer means a device lowered into a well to produce a fluid-tight seal.			
Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of this part and parts 124, 144, and 145. Permit does not include RCRA interim status (§122.23), UIC authorization by rule (§§144.21 to 144.26 and 144.15), or any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."			
Plugging means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.			
Plugging record means a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures.			
Pressure means the total load or force per unit area acting on a surface.			
Sole or principal source aquifer means an aquifer which has been designated by the Administrator pursuant to section 1424 (a) or (e) of the SDWA.			
Surface casing means the first string of well casing to be installed			

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in the well.			
Well plug means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.			
Well stimulation means several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.			
Well monitoring means the measurement by on-site instruments or laboratory methods, of the quality of water in a well			
40 CFR 146.4 Criteria for exempted aquifers.			
An aquifer or a portion thereof which meets the criteria for an "underground source of drinking water" in §146.3 may be determined under §144.7 of this chapter to be an "exempted aquifer" for Class I–V wells if it meets the criteria in paragraphs (a) through (c) of this section. Class VI wells must meet the criteria under paragraph (d) of this section:	40 CFR 146.4		
It does not currently serve as a source of drinking water; and	40 CFR 146.4(a)		
It cannot now and will not in the future serve as a source of drinking water because:	40 CFR 146.4(b)		
It is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible.	40 CFR 146.4(b)(1)		
It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;	40 CFR 146.4(b)(2)		
It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or	40 CFR 146.4(b)(3)		
It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or	40 CFR 146.4(b)(4)		

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The total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.	40 CFR 146.4(c)		
The areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under §144.7(d) of this chapter if it meets the following criteria:	40 CFR 146.4(d)		
It does not currently serve as a source of drinking water; and	40 CFR 146.4(d)(1)		
The total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and	40 CFR 146.4(d)(2)		
It is not reasonably expected to supply a public water system.	40 CFR 146.4(d)(3)		
SUBPART H--CRITERIA AND STANDARDS APPLICABLE TO CLASS VI WELLS			
40 CFR 146.81 Applicability.			
This subpart establishes criteria and standards for underground injection control programs to regulate any Class VI carbon dioxide geologic sequestration injection wells.	40 CFR 146.81(a)		
This subpart applies to any wells used to inject carbon dioxide specifically for the purpose of geologic sequestration, i.e., the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations.	40 CFR 146.81(b)		
This subpart also applies to owners or operators of permit- or rule-authorized Class I, Class II, or Class V experimental carbon dioxide injection projects who seek to apply for a Class VI geologic sequestration permit for their well or wells. Owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate to the Director that the wells were engineered and constructed to meet the requirements at 40 CFR 146.86(a) and ensure protection of USDWs, in lieu of requirements at 40 CFR 146.86(b) and 146.87(a). By December 10, 2011, owners or operators of either Class I wells previously permitted for the purpose of geologic sequestration or Class V experimental technology wells no longer being used for experimental purposes that will continue injection of carbon dioxide for the purpose of GS	40 CFR 146.81(c)		

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must apply for a Class VI permit. A converted well must still meet all other requirements under part 146.			
Definitions. The following definitions apply to this subpart. To the extent that these definitions conflict with those in 40 CFR 144.3 or 146.3, these definitions govern for Class VI wells: *area of review, carbon dioxide plume, carbon dioxide stream, confining zone, corrective action, geologic sequestration, geologic sequestration project, injection zone, post-injection site care, pressure front, site closure, transmissive fault or fracture.*	40 CFR 146.81(d)		
40 CFR 146.82 Required Class VI permit information.			
This section sets forth the information which must be considered by the Director in authorizing Class VI wells. For converted Class I, Class II, or Class V experimental wells, certain maps, cross-sections, tabulations of wells within the area of review and other data may be included in the application by reference provided they are current, readily available to the Director, and sufficiently identified to be retrieved. In cases where EPA issues the permit, all the information in this section must be submitted to the Regional Administrator.	40 CFR 146.82		
Prior to the issuance of a permit for the construction of a new Class VI well or the conversion of an existing Class I, Class II, or Class V well to a Class VI well, the owner or operator shall submit, pursuant to 40 CFR 146.91(e), and the Director shall consider the following:	40 CFR 146.82(a)		
Information required in 40 CFR 144.31 (e)(1) through (6);	40 CFR 146.82(a)(1)		
A map showing the injection well for which a permit is sought and the applicable area of review consistent with 40 CFR 146.84. Within the area of review, the map must show the number or name, and location of all injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, State- or EPA-approved subsurface cleanup sites, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells, other pertinent surface features including structures intended for human occupancy, State, Tribal, and Territory boundaries, and roads. The map should also show faults, if known or suspected. Only information of public record is required to be included on this	40 CFR 146.82(a)(2)		

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map;			
Information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, including:	40 CFR 146.82(a)(3)		
Maps and cross sections of the area of review;	40 CFR 146.82(a)(3)(i)		
The location, orientation, and properties of known or suspected faults and fractures that may transect the confining zone(s) in the area of review and a determination that they would not interfere with containment;	40 CFR 146.82(a)(3)(ii)		
Data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone(s); including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;	40 CFR 146.82(a)(3)(iii)		
Geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone(s);	40 CFR 146.82(a)(3)(iv)		
Information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment; and	40 CFR 146.82(a)(3)(v)		
Geologic and topographic maps and cross sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.	40 CFR 146.82(a)(3)(vi)		
A tabulation of all wells within the area of review which penetrate the injection or confining zone(s). Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require;	40 CFR 146.82(a)(4)		
Maps and stratigraphic cross sections indicating the general vertical and lateral limits of all USDWs, water wells and springs within the area of review, their positions relative to the injection zone(s), and the direction of water movement, where known;	40 CFR 146.82(a)(5)		
Baseline geochemical data on subsurface formations, including all USDWs in the area of review;	40 CFR 146.82(a)(6)		
Proposed operating data for the proposed geologic sequestration site:	40 CFR 146.82(a)(7)		

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Average and maximum daily rate and volume and/or mass and total anticipated volume and/or mass of the carbon dioxide stream;	40 CFR 146.82(a)(7)(i)		
Average and maximum injection pressure;	40 CFR 146.82(a)(7)(ii)		
The source(s) of the carbon dioxide stream; and	40 CFR 146.82(a)(7)(iii)		
An analysis of the chemical and physical characteristics of the carbon dioxide stream.	40 CFR 146.82(a)(7)(iv)		
Proposed pre-operational formation testing program to obtain an analysis of the chemical and physical characteristics of the injection zone(s) and confining zone(s) and that meets the requirements at 40 CFR 146.87;	40 CFR 146.82(a)(8)		
Proposed stimulation program, a description of stimulation fluids to be used and a determination that stimulation will not interfere with containment;	40 CFR 146.82(a)(9)		
Proposed procedure to outline steps necessary to conduct injection operation;	40 CFR 146.82(a)(10)		
Schematics or other appropriate drawings of the surface and subsurface construction details of the well;	40 CFR 146.82(a)(11)		
Injection well construction procedures that meet the requirements of 40 CFR 146.86;	40 CFR 146.82(a)(12)		
Proposed area of review and corrective action plan that meets the requirements under 40 CFR 146.84;	40 CFR 146.82(a)(13)		
A demonstration, satisfactory to the Director, that the applicant has met the financial responsibility requirements under 40 CFR 146.85;	40 CFR 146.82(a)(14)		
Proposed testing and monitoring plan required by 40 CFR 146.90;	40 CFR 146.82(a)(15)		
Proposed injection well plugging plan required by 40 CFR 146.92(b);	40 CFR 146.82(a)(16)		
Proposed post-injection site care and site closure plan required by 40 CFR 146.93(a);	40 CFR 146.82(a)(17)		
At the Director's discretion, a demonstration of an alternative post-injection site care timeframe required by 40 CFR 146.93(c);	40 CFR 146.82(a)(18)		
Proposed emergency and remedial response plan required by 40	40 CFR 146.82(a)(19)		

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CFR 146.94(a);			
A list of contacts, submitted to the Director, for those States, Tribes, and Territories identified to be within the area of review of the Class VI project based on information provided in paragraph (a)(2) of this section; and	40 CFR 146.82(a)(20)		
Any other information requested by the Director.	40 CFR 146.82(a)(21)		
The Director shall notify, in writing, any States, Tribes, or Territories within the area of review of the Class VI project based on information provided in paragraphs (a)(2) and (a)(20) of this section of the permit application and pursuant to the requirements at 40 CFR 145.23(f)(13).	40 CFR 146.82(b)		
Prior to granting approval for the operation of a Class VI well, the Director shall consider the following information:	40 CFR 146.82(c)		
The final area of review based on modeling, using data obtained during logging and testing of the well and the formation as required by paragraphs (c)(2), (3), (4), (6), (7), and (10) of this section;	40 CFR 146.82(c)(1)		
Any relevant updates, based on data obtained during logging and testing of the well and the formation as required by paragraphs (c)(3), (4), (6), (7), and (10) of this section, to the information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, submitted to satisfy the requirements of paragraph (a)(3) of this section;	40 CFR 146.82(c)(2)		
Information on the compatibility of the carbon dioxide stream with fluids in the injection zone(s) and minerals in both the injection and the confining zone(s), based on the results of the formation testing program, and with the materials used to construct the well;	40 CFR 146.82(c)(3)		
The results of the formation testing program required at paragraph (a)(8) of this section;	40 CFR 146.82(c)(4)		
Final injection well construction procedures that meet the requirements of 40 CFR 146.86;	40 CFR 146.82(c)(5)		
The status of corrective action on wells in the area of review;	40 CFR 146.82(c)(6)		
All available logging and testing program data on the well required by 40 CFR 146.87;	40 CFR 146.82(c)(7)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
A demonstration of mechanical integrity pursuant to 40 CFR 146.89;	40 CFR 146.82(c)(8)		
Any updates to the proposed area of review and corrective action plan, testing and monitoring plan, injection well plugging plan, post-injection site care and site closure plan, or the emergency and remedial response plan submitted under paragraph (a) of this section, which are necessary to address new information collected during logging and testing of the well and the formation as required by all paragraphs of this section, and any updates to the alternative post-injection site care timeframe demonstration submitted under paragraph (a) of this section, which are necessary to address new information collected during the logging and testing of the well and the formation as required by all paragraphs of this section; and	40 CFR 146.82(c)(9)		
Any other information requested by the Director.	40 CFR 146.82(c)(10)		
Owners or operators seeking a waiver of the requirement to inject below the lowermost USDW must also refer to 40 CFR 146.95 and submit a supplemental report, as required at 40 CFR 146.95(a). The supplemental report is not part of the permit application.	40 CFR 146.82(d)		
40 CFR 146.83 Minimum criteria for siting.			
Owners or operators of Class VI wells must demonstrate to the satisfaction of the Director that the wells will be sited in areas with a suitable geologic system. The owners or operators must demonstrate that the geologic system comprises:	40 CFR 146.83(a)		
An injection zone(s) of sufficient areal extent, thickness, porosity, and permeability to receive the total anticipated volume of the carbon dioxide stream;	40 CFR 146.83(a)(1)		
Confining zone(s) free of transmissive faults or fractures and of sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced formation fluids and allow injection at proposed maximum pressures and volumes without initiating or propagating fractures in the confining zone(s).	40 CFR 146.83(a)(2)		
The Director may require owners or operators of Class VI wells to identify and characterize additional zones that will impede vertical fluid movement, are free of faults and fractures that may interfere	40 CFR 146.83(b)		

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with containment, allow for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and remediation.			
40 CFR 146.84 Area of review and corrective action.			
The area of review is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and is based on available site characterization, monitoring, and operational data.	40 CFR 146.84(a)		
The owner or operator of a Class VI well must prepare, maintain, and comply with a plan to delineate the area of review for a proposed geologic sequestration project, periodically reevaluate the delineation, and perform corrective action that meets the requirements of this section and is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. As a part of the permit application for approval by the Director, the owner or operator must submit an area of review and corrective action plan that includes the following information:	40 CFR 146.84(b)		
The method for delineating the area of review that meets the requirements of paragraph (c) of this section, including the model to be used, assumptions that will be made, and the site characterization data on which the model will be based;	40 CFR 146.84(b)(1)		
A description of:	40 CFR 146.84(b)(2)		
The minimum fixed frequency, not to exceed five years, at which the owner or operator proposes to reevaluate the area of review;	40 CFR 146.84(b)(2)(i)		
The monitoring and operational conditions that would warrant a reevaluation of the area of review prior to the next scheduled reevaluation as determined by the minimum fixed frequency established in paragraph (b)(2)(i) of this section.	40 CFR 146.84(b)(2)(ii)		
How monitoring and operational data (e.g., injection rate and pressure) will be used to inform an area of review reevaluation;	40 CFR 146.84(b)(2)(iii)		

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and			
How corrective action will be conducted to meet the requirements of paragraph (d) of this section, including what corrective action will be performed prior to injection and what, if any, portions of the area of review will have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.	40 CFR 146.84(b)(2)(iv)		
Owners or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:	40 CFR 146.84(c)		
Predict, using existing site characterization, monitoring and operational data, and computational modeling, the projected lateral and vertical migration of the carbon dioxide plume and formation fluids in the subsurface from the commencement of injection activities until the plume movement ceases, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director. The model must:	40 CFR 146.84(c)(1)		
Be based on detailed geologic data collected to characterize the injection zone(s), confining zone(s) and any additional zones; and anticipated operating data, including injection pressures, rates, and total volumes over the proposed life of the geologic sequestration project;	40 CFR 146.84(c)(1)(i)		
Take into account any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions; and	40 CFR 146.84(c)(1)(ii)		
Consider potential migration through faults, fractures, and artificial penetrations.	40 CFR 146.84(c)(1)(iii)		
Using methods approved by the Director, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone(s). Provide a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any	40 CFR 146.84(c)(2)		

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additional information the Director may require; and			
Determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs, including use of materials compatible with the carbon dioxide stream.	40 CFR 146.84(c)(3)		
Owners or operators of Class VI wells must perform corrective action on all wells in the area of review that are determined to need corrective action, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream, where appropriate.	40 CFR 146.84(d)		
At the minimum fixed frequency, not to exceed five years, as specified in the area of review and corrective action plan, or when monitoring and operational conditions warrant, owners or operators must:	40 CFR 146.84(e)		
Reevaluate the area of review in the same manner specified in paragraph (c)(1) of this section;	40 CFR 146.84(e)(1)		
Identify all wells in the reevaluated area of review that require corrective action in the same manner specified in paragraph (c) of this section;	40 CFR 146.84(e)(2)		
Perform corrective action on wells requiring corrective action in the reevaluated area of review in the same manner specified in paragraph (d) of this section; and	40 CFR 146.84(e)(3)		
Submit an amended area of review and corrective action plan or demonstrate to the Director through monitoring data and modeling results that no amendment to the area of review and corrective action plan is needed. Any amendments to the area of review and corrective action plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate.	40 CFR 146.84(e)(4)		
The emergency and remedial response plan (as required by 40 CFR 146.94) and the demonstration of financial responsibility (as described by 40 CFR 146.85) must account for the area of review delineated as specified in paragraph (c)(1) of this section or the most recently evaluated area of review delineated under paragraph	40 CFR 146.84(f)		

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(e) of this section, regardless of whether or not corrective action in the area of review is phased.			
All modeling inputs and data used to support area of review reevaluations under paragraph (e) of this section shall be retained for 10 years.	40 CFR 146.84(g)		
40 CFR 146.85 Financial responsibility.			
The owner or operator must demonstrate and maintain financial responsibility as determined by the Director that meets the following conditions:	40 CFR 146.85(a)		
The financial responsibility instrument(s) used must be from the following list of qualifying instruments:	40 CFR 146.85(a)(1)		
Trust Funds	40 CFR 146.85(a)(1)(i)		
Surety Bonds	40 CFR 146.85(a)(1)(ii)		
Letter of Credit	40 CFR 146.85(a)(1)(iii)		
Insurance	40 CFR 146.85(a)(1)(iv)		
Self Insurance (i.e., Financial Test and Corporate Guarantee)	40 CFR 146.85(a)(1)(v)		
Escrow Account	40 CFR 146.85(a)(1)(vi)		
Any other instrument(s) satisfactory to the Director	40 CFR 146.85(a)(1)(vii)		
The qualifying instrument(s) must be sufficient to cover the cost of:	40 CFR 146.85(a)(2)		
Corrective action (that meets the requirements of 40 CFR 146.84);	40 CFR 146.85(a)(2)(i)		
Injection well plugging (that meets the requirements of 40 CFR 146.92);	40 CFR 146.85(a)(2)(ii)		
Post injection site care and site closure (that meets the requirements of 40 CFR 146.93); and	40 CFR 146.85(a)(2)(iii)		
Emergency and remedial response (that meets the requirements of 40 CFR 146.94).	40 CFR 146.85(a)(2)(iv)		
The financial responsibility instrument(s) must be sufficient to address endangerment of underground sources of drinking water.	40 CFR 146.85(a)(3)		
The qualifying financial responsibility instrument(s) must comprise	40 CFR 146.85(a)(4)		

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protective conditions of coverage.			
Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	40 CFR 146.85(a)(4)(i)		
Cancellation – for purposes of this part, an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the Director. The cancellation must not be final for 120 days after receipt of cancellation notice. The owner or operator must provide an alternate financial responsibility demonstration within 60 days of notice of cancellation, and if an alternate financial responsibility demonstration is not acceptable (or possible), any funds from the instrument being cancelled must be released within 60 days of notification by the Director.	40 CFR 146.85(a)(4)(i)(A)		
Renewal – for purposes of this part, owners or operators must renew all financial instruments, if an instrument expires, for the entire term of the geologic sequestration project. The instrument may be automatically renewed as long as the owner or operator has the option of renewal at the face amount of the expiring instrument. The automatic renewal of the instrument must, at a minimum, provide the holder with the option of renewal at the face amount of the expiring financial instrument.	40 CFR 146.85(a)(4)(i)(B)		
Cancellation, termination, or failure to renew may not occur and the financial instrument will remain in full force and effect in the event that on or before the date of expiration: the Director deems the facility abandoned; or the permit is terminated or revoked or a new permit is denied; or closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or the amount	40 CFR 146.85(a)(4)(i)(C)		

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due is paid.			
The qualifying financial responsibility instrument(s) must be approved by the Director.	40 CFR 146.85(a)(5)		
The Director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue a Class VI permit (40 CFR 146.82).	40 CFR 146.85(a)(5)(i)		
The owner or operator must provide any updated information related to their financial responsibility instrument(s) on an annual basis and if there are any changes, the Director must evaluate, within a reasonable time, the financial responsibility demonstration to confirm that the instrument(s) used remain adequate for use. The owner or operator must maintain financial responsibility requirements regardless of the status of the Director's review of the financial responsibility demonstration.	40 CFR 146.85(a)(5)(ii)		
The Director may disapprove the use of a financial instrument if he determines that it is not sufficient to meet the requirements of this section.	40 CFR 146.85(a)(5)(iii)		
The owner or operator may demonstrate financial responsibility by using one or multiple qualifying financial instruments for specific phases of the geologic sequestration project.	40 CFR 146.85(a)(6)		
In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance (i.e., self insurance or performance bond), for example trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, escrow account, and insurance. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.	40 CFR 146.85(a)(6)(i)		
When using a third-party instrument to demonstrate financial responsibility, the owner or operator must provide a proof that the third-party providers either have passed financial strength requirements based on credit ratings; or has met a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	40 CFR 146.85(a)(6)(ii)		

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An owner or operator using certain types of third party instruments must establish a standby trust to enable EPA to be party to the financial responsibility agreement without EPA being the beneficiary of any funds. The standby trust fund must be used along with other financial responsibility instruments (e.g., surety bonds, letters of credit, or escrow accounts) to provide a location to place funds if needed.	40 CFR 146.85(a)(6)(iii)		
An owner or operator may deposit money to an escrow account to cover financial responsibility requirements; this account must segregate funds sufficient to cover estimated costs for Class VI (geologic sequestration) financial responsibility from other accounts and uses.	40 CFR 146.85(a)(6)(iv)		
An owner or operator or its guarantor may use self insurance to demonstrate financial responsibility for geologic sequestration projects. In order to satisfy this requirement the owner or operator must meet a Tangible Net Worth of an amount approved by the Director, have a Net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost, have assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost, and must submit a report of its bond rating and financial information annually. In addition the owner or operator must either: have a bond rating test of AAA, AA, A, or BBB as issued by Standard & Poor's or Aaa, Aa, A, or Baa as issued by Moody's; or meet all of the following five financial ratio thresholds: a ratio of total liabilities to net worth less than 2.0; a ratio of current assets to current liabilities greater than 1.5; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; a ratio of current assets minus current liabilities to total assets greater than -0.1; and a net profit (revenues minus expenses) greater than 0.	40 CFR 146.85(a)(6)(v)		
An owner or operator who is not able to meet corporate financial test criteria may arrange a corporate guarantee by demonstrating that its corporate parent meets the financial test requirements on its behalf. The parent's demonstration that it meets the financial test requirement is insufficient if it has not also guaranteed to fulfill the	40 CFR 146.85(a)(6)(vi)		

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obligations for the owner or operator.			
An owner or operator may obtain an insurance policy to cover the estimated costs of geologic sequestration activities requiring financial responsibility. This insurance policy must be obtained from a third party provider.	40 CFR 146.85(a)(6)(vii)		
The requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of the permit.	40 CFR 146.85(b)		
The owner or operator must maintain financial responsibility and resources until:	40 CFR 146.85(b)(1)		
The Director receives and approves the completed post-injection site care and site closure plan; and	40 CFR 146.85(b)(1)(i)		
The Director approves site closure.	40 CFR 146.85(b)(1)(ii)		
The owner or operator may be released from a financial instrument in the following circumstances:	40 CFR 146.85(b)(2)		
The owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the Director, including obtaining financial responsibility for the next phase of the GS project, if required; or	40 CFR 146.85(b)(2)(i)		
The owner or operator has submitted a replacement financial instrument and received written approval from the Director accepting the new financial instrument and releasing the owner or operator from the previous financial instrument.	40 CFR 146.85(b)(2)(ii)		
The owner or operator must have a detailed written estimate, in current dollars, of the cost of performing corrective action on wells in the area of review, plugging the injection well(s), post-injection site care and site closure, and emergency and remedial response.	40 CFR 146.85(c)		
The cost estimate must be performed for each phase separately and must be based on the costs to the regulatory agency of hiring a third party to perform the required activities. A third party is a party who is not within the corporate structure of the owner or operator.	40 CFR 146.85(c)(1)		
During the active life of the geologic sequestration project, the	40 CFR 146.85(c)(2)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
owner or operator must adjust the cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with paragraph (a) of this section and provide this adjustment to the Director. The owner or operator must also provide to the Director written updates of adjustments to the cost estimate within 60 days of any amendments to the area of review and corrective action plan (40 CFR 146.84), the injection well plugging plan (146.92), the post-injection site care and site closure plan (40 CFR 146.93), and the emergency and remedial response plan (40 CFR 146.94).			
The Director must approve any decrease or increase to the initial cost estimate. During the active life of the geologic sequestration project, the owner or operator must revise the cost estimate no later than 60 days after the Director has approved the request to modify the area of review and corrective action plan (40 CFR 146.84), the injection well plugging plan (40 CFR 146.92), the post-injection site care and site closure plan (40 CFR 146.93), and the emergency and response plan (40 CFR 146.94), if the change in the plan increases the cost. If the change to the plans decreases the cost, any withdrawal of funds must be approved by the Director. Any decrease to the value of the financial assurance instrument must first be approved by the Director. The revised cost estimate must be adjusted for inflation as specified at paragraph (c)(2) of this section.	40 CFR 146.85(c)(3)		
Whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Director, or obtain other financial responsibility instruments to cover the increase. Whenever the current cost estimate decreases, the face amount of the financial assurance instrument may be reduced to the amount of the current cost estimate only after the owner or operator has received written approval from the Director.	40 CFR 146.85(c)(4)		
The owner or operator must notify the Director by certified mail of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging and post-injection site	40 CFR 146.85(d)		

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care and site closure.			
In the event that the owner or operator or the third party provider of a financial responsibility instrument is going through a bankruptcy, the owner or operator must notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.	40 CFR 146.85(d)(1)		
A guarantor of a corporate guarantee must make such a notification to the Director if he/she is named as debtor, as required under the terms of the corporate guarantee.	40 CFR 146.85(d)(2)		
An owner or operator who fulfills the requirements of paragraph (a) of this section by obtaining a trust fund, surety bond, letter of credit, escrow account, or insurance policy will be deemed to be without the required financial assurance in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee of the institution issuing the trust fund, surety bond, letter of credit, escrow account, or insurance policy. The owner or operator must establish other financial assurance within 60 days after such an event.	40 CFR 146.85(d)(3)		
The owner or operator must provide an adjustment of the cost estimate to the Director within 60 days of notification by the Director, if the Director determines during the annual evaluation of the qualifying financial responsibility instrument(s) that the most recent demonstration is no longer adequate to cover the cost of corrective action (as required by 40 CFR 146.84), injection well plugging (as required by 40 CFR 146.92), post-injection site care and site closure (as required by 40 CFR 146.93), and emergency and remedial response (as required by 40 CFR 146.94).	40 CFR 146.85(e)		
The Director must approve the use and length of pay-in-periods for trust funds or escrow accounts.	40 CFR 146.85(f)		
40 CFR 146.86 Injection well construction requirements.			
General. The owner or operator must ensure that all Class VI wells are constructed and completed to:	40 CFR 146.86(a)		

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Prevent the movement of fluids into or between USDWs or into any unauthorized zones;	40 CFR 146.86(a)(1)		
Permit the use of appropriate testing devices and workover tools; and	40 CFR 146.86(a)(2)		
Permit continuous monitoring of the annulus space between the injection tubing and long string casing.	40 CFR 146.86(a)(3)		
Casing and Cementing of Class VI Wells.	40 CFR 146.86(b)		
Casing and cement or other materials used in the construction of each Class VI well must have sufficient structural strength and be designed for the life of the geologic sequestration project. All well materials must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the Director. The casing and cementing program must be designed to prevent the movement of fluids into or between USDWs. In order to allow the Director to determine and specify casing and cementing requirements, the owner or operator must provide the following information:	40 CFR 146.86(b)(1)		
Depth to the injection zone(s);	40 CFR 146.86(b)(1)(i)		
Injection pressure, external pressure, internal pressure, and axial loading;	40 CFR 146.86(b)(1)(ii)		
Hole size;	40 CFR 146.86(b)(1)(iii)		
Size and grade of all casing strings (wall thickness, external diameter, nominal weight, length, joint specification, and construction material);	40 CFR 146.86(b)(1)(iv)		
Corrosiveness of the carbon dioxide stream and formation fluids;	40 CFR 146.86(b)(1)(v)		
Down-hole temperatures;	40 CFR 146.86(b)(1)(vi)		
Lithology of injection and confining zone(s);	40 CFR 146.86(b)(1)(vii)		
Type or grade of cement and cement additives; and	40 CFR 146.86(b)(1)(viii)		
Quantity, chemical composition, and temperature of the carbon dioxide stream.	40 CFR 146.86(b)(1)(ix)		

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Surface casing must extend through the base of the lowermost USDW and be cemented to the surface through the use of a single or multiple strings of casing and cement.	40 CFR 146.86(b)(2)		
At least one long string casing, using a sufficient number of centralizers, must extend to the injection zone and must be cemented by circulating cement to the surface in one or more stages.	40 CFR 146.86(b)(3)		
Circulation of cement may be accomplished by staging. The Director may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement does not allow fluid movement behind the well bore.	40 CFR 146.86(b)(4)		
Cement and cement additives must be compatible with the carbon dioxide stream and formation fluids and of sufficient quality and quantity to maintain integrity over the design life of the geologic sequestration project. The integrity and location of the cement shall be verified using technology capable of evaluating cement quality radially and identifying the location of channels to ensure that USDWs are not endangered.	40 CFR 146.86(b)(5)		
Tubing and packer.	40 CFR 146.86(c)		
Tubing and packer materials used in the construction of each Class VI well must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the Director.	40 CFR 146.86(c)(1)		
All owners or operators of Class VI wells must inject fluids through tubing with a packer set at a depth opposite a cemented interval at the location approved by the Director.	40 CFR 146.86(c)(2)		
In order for the Director to determine and specify requirements for tubing and packer, the owner or operator must submit the following information:	40 CFR 146.86(c)(3)		
Depth of setting;	40 CFR 146.86(c)(3)(i)		
Characteristics of the carbon dioxide stream (chemical content, corrosiveness, temperature, and density) and formation fluids;	40 CFR 146.86(c)(3)(ii)		

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Maximum proposed injection pressure;	40 CFR 146.86(c)(3)(iii)		
Maximum proposed annular pressure;	40 CFR 146.86(c)(3)(iv)		
Proposed injection rate (intermittent or continuous) and volume and/or mass of the carbon dioxide stream;	40 CFR 146.86(c)(3)(v)		
Size of tubing and casing; and	40 CFR 146.86(c)(3)(vi)		
Tubing tensile, burst, and collapse strengths.	40 CFR 146.86(c)(3)(vii)		
40 CFR 146.87 Logging, sampling, and testing prior to injection well operation.			
During the drilling and construction of a Class VI injection well, the owner or operator must run appropriate logs, surveys and tests to determine or verify the depth, thickness, porosity, permeability, and lithology of, and the salinity of any formation fluids in all relevant geologic formations to ensure conformance with the injection well construction requirements under 40 CFR 146.86 and to establish accurate baseline data against which future measurements may be compared. The owner or operator must submit to the Director a descriptive report prepared by a knowledgeable log analyst that includes an interpretation of the results of such logs and tests. At a minimum, such logs and tests must include:	40 CFR 146.87(a)		
Deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the location of the borehole and to ensure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling; and	40 CFR 146.87(a)(1)		
Before and upon installation of the surface casing:	40 CFR 146.87(a)(2)		
Resistivity, spontaneous potential, and caliper logs before the casing is installed; and	40 CFR 146.87(a)(2)(i)		
A cement bond and variable density log to evaluate cement quality radially, and a temperature log after the casing is set and cemented.	40 CFR 146.87(a)(2)(ii)		
Before and upon installation of the long string casing:	40 CFR 146.87(a)(3)		
Resistivity, spontaneous potential, porosity, caliper, gamma ray,	40 CFR 146.87(a)(3)(i)		

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fracture finder logs, and any other logs the Director requires for the given geology before the casing is installed; and			
A cement bond and variable density log, and a temperature log after the casing is set and cemented.	40 CFR 146.87(a)(3)(ii)		
A series of tests designed to demonstrate the internal and external mechanical integrity of injection wells, which may include:	40 CFR 146.87(a)(4)		
A pressure test with liquid or gas;	40 CFR 146.87(a)(4)(i)		
A tracer survey such as oxygen-activation logging;	40 CFR 146.87(a)(4)(ii)		
A temperature or noise log;	40 CFR 146.87(a)(4)(iii)		
A casing inspection log; and	40 CFR 146.87(a)(4)(iv)		
Any alternative methods that provide equivalent or better information and that are required by and/or approved of by the Director.	40 CFR 146.87(a)(5)		
The owner or operator must take whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone(s), and must submit to the Director a detailed report prepared by a log analyst that includes: well log analyses (including well logs), core analyses, and formation fluid sample information. The Director may accept information on cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The Director may require the owner or operator to core other formations in the borehole.	40 CFR 146.87(b)		
The owner or operator must record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone(s).	40 CFR 146.87(c)		
At a minimum, the owner or operator must determine or calculate the following information concerning the injection and confining zone(s):	40 CFR 146.87(d)		
Fracture pressure;	40 CFR 146.87(d)(1)		
Other physical and chemical characteristics of the injection and confining zone(s); and	40 CFR 146.87(d)(2)		
Physical and chemical characteristics of the formation fluids in the	40 CFR 146.87(d)(3)		

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injection zone(s).			
Upon completion, but prior to operation, the owner or operator must conduct the following tests to verify hydrogeologic characteristics of the injection zone(s):	40 CFR 146.87(e)		
A pressure fall-off test; and,	40 CFR 146.87(e)(1)		
A pump test; or	40 CFR 146.87(e)(2)		
Injectivity tests.	40 CFR 146.87(e)(3)		
The owner or operator must provide the Director with the opportunity to witness all logging and testing by this subpart. The owner or operator must submit a schedule of such activities to the Director 30 days prior to conducting the first test and submit any changes to the schedule 30 days prior to the next scheduled test.	40 CFR 146.87(f)		
40 CFR 146.88 Injection well operating requirements.			
Except during stimulation, the owner or operator must ensure that injection pressure does not exceed 90 percent of the fracture pressure of the injection zone(s) so as to ensure that the injection does not initiate new fractures or propagate existing fractures in the injection zone(s). In no case may injection pressure initiate fractures in the confining zone(s) or cause the movement of injection or formation fluids that endangers a USDW. Pursuant to requirements at 40 CFR 146.82(a)(9), all stimulation programs must be approved by the Director as part of the permit application and incorporated into the permit.	40 CFR 146.88(a)		
Injection between the outermost casing protecting USDWs and the well bore is prohibited.	40 CFR 146.88(b)		
The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the Director. The owner or operator must maintain on the annulus a pressure that exceeds the operating injection pressure, unless the Director determines that such requirement might harm the integrity of the well or endanger USDWs.	40 CFR 146.88(c)		
Other than during periods of well workover (maintenance) approved by the Director in which the sealed tubing-casing annulus is disassembled for maintenance or corrective procedures, the	40 CFR 146.88(d)		

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owner or operator must maintain mechanical integrity of the injection well at all times.			
The owner or operator must install and use:	40 CFR 146.88(e)		
Continuous recording devices to monitor: the injection pressure; the rate, volume and/or mass, and temperature of the carbon dioxide stream; and the pressure on the annulus between the tubing and the long string casing and annulus fluid volume; and	40 CFR 146.88(e)(1)		
Alarms and automatic surface shut-off systems or, at the discretion of the Director, down-hole shut-off systems (e.g., automatic shut-off, check valves) for onshore wells or, other mechanical devices that provide equivalent protection; and	40 CFR 146.88(e)(2)		
Alarms and automatic down-hole shut-off systems for wells located offshore but within State territorial waters, designed to alert the operator and shut-in the well when operating parameters such as annulus pressure, injection rate, or other parameters diverge beyond permitted ranges and/or gradients specified in the permit.	40 CFR 146.88(e)(3)		
If a shutdown (i.e., down-hole or at the surface) is triggered or a loss of mechanical integrity is discovered, the owner or operator must immediately investigate and identify as expeditiously as possible the cause of the shutoff. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required under paragraph (e) of this section otherwise indicates that the well may be lacking mechanical integrity, the owner or operator must:	40 CFR 146.88(f)		
Immediately cease injection;	40 CFR 146.88(f)(1)		
Take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluids into any unauthorized zone;	40 CFR 146.88(f)(2)		
Notify the Director within 24 hours;	40 CFR 146.88(f)(3)		
Restore and demonstrate mechanical integrity to the satisfaction of the Director prior to resuming injection; and	40 CFR 146.88(f)(4)		
Notify the Director when injection can be expected to resume.	40 CFR 146.88(f)(5)		
40 CFR 146.89 Mechanical integrity.			

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A Class VI well has mechanical integrity if:	40 CFR 146.89(a)		
There is no significant leak in the casing, tubing, or packer; and	40 CFR 146.89(a)(1)		
There is no significant fluid movement into a USDW through channels adjacent to the injection well bore.	40 CFR 146.89(a)(2)		
To evaluate the absence of significant leaks under paragraph (a)(1) of this section, owners or operators must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in 40 CFR 146.88 (e);	40 CFR 146.89(b)		
At least once per year, the owner or operator must use one of the following methods to determine the absence of significant fluid movement under paragraph (a)(2) of this section:	40 CFR 146.89(c)		
An approved tracer survey such as an oxygen-activation log; or	40 CFR 146.89(c)(1)		
A temperature or noise log.	40 CFR 146.89(c)(2)		
If required by the Director, at a frequency specified in the testing and monitoring plan required at 40 CFR 146.90, the owner or operator must run a casing inspection log to determine the presence or absence of corrosion in the long-string casing.	40 CFR 146.89(d)		
The Director may require any other test to evaluate mechanical integrity under paragraphs (a)(1) or (a)(2) of this section. Also, the Director may allow the use of a test to demonstrate mechanical integrity other than those listed above with the written approval of the Administrator. To obtain approval for a new mechanical integrity test, the Director must submit a written request to the Administrator setting forth the proposed test and all technical data supporting its use. The Administrator may approve the request if he or she determines that it will reliably demonstrate the mechanical integrity of wells for which its use is proposed. Any alternate method approved by the Administrator will be published in the *Federal Register* and may be used in all States in accordance with applicable State law unless its use is restricted at the time of approval by the Administrator.	40 CFR 146.89(e)		
In conducting and evaluating the tests enumerated in this section or others to be allowed by the Director, the owner or operator and the	40 CFR 146.89(f)		

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Director must apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the Director, he/she shall include a description of the test(s) and the method(s) used. In making his/her evaluation, the Director must review monitoring and other test data submitted since the previous evaluation.			
The Director may require additional or alternative tests if the results presented by the owner or operator under paragraphs (a) through (d) of this section are not satisfactory to the Director to demonstrate that there is no significant leak in the casing, tubing, or packer, or to demonstrate that there is no significant movement of fluid into a USDW resulting from the injection activity as stated in paragraphs (a)(1) and (2) of this section.	40 CFR 146.89(g)		
40 CFR 146.90 Testing and monitoring requirements.			
The owner or operator of a Class VI well must prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic sequestration project is operating as permitted and is not endangering USDWs. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The testing and monitoring plan must be submitted with the permit application, for Director approval, and must include a description of how the owner or operator will meet the requirements of this section, including accessing sites for all necessary monitoring and testing during the life of the project. Testing and monitoring associated with geologic sequestration projects must, at a minimum, include:	40 CFR 146.90		
Analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;	40 CFR 146.90(a)		
Installation and use, except during well workovers as defined in 40 CFR 146.88(d), of continuous recording devices to monitor injection pressure, rate, and volume; the pressure on the annulus between the tubing and the long string casing; and the annulus fluid volume added;	40 CFR 146.90(b)		
Corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion, which	40 CFR 146.90(c)		

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must be performed on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in 40 CFR 146.86(b), by:			
Analyzing coupons of the well construction materials placed in contact with the carbon dioxide stream; or	40 CFR 146.90(c)(1)		
Routing the carbon dioxide stream through a loop constructed with the material used in the well and inspecting the materials in the loop; or	40 CFR 146.90(c)(2)		
Using an alternative method approved by the Director;	40 CFR 146.90(c)(3)		
Periodic monitoring of the ground water quality and geochemical changes above the confining zone(s) that may be a result of carbon dioxide movement through the confining zone(s) or additional identified zones including:	40 CFR 146.90(d)		
The location and number of monitoring wells based on specific information about the geologic sequestration project, including injection rate and volume, geology, the presence of artificial penetrations, and other factors; and	40 CFR 146.90(d)(1)		
The monitoring frequency and spatial distribution of monitoring wells based on baseline geochemical data that has been collected under 40 CFR 146.82(a)(6) and on any modeling results in the area of review evaluation required by 40 CFR 146.84(c).	40 CFR 146.90(d)(2)		
A demonstration of external mechanical integrity pursuant to 40 CFR 146.89(c) at least once per year until the injection well is plugged; and, if required by the Director, a casing inspection log pursuant to requirements at 40 CFR 146.89(d) at a frequency established in the testing and monitoring plan;	40 CFR 146.90(e)		
A pressure fall-off test at least once every five years unless more frequent testing is required by the Director based on site-specific information;	40 CFR 146.90(f)		
Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using:	40 CFR 146.90(g)		
Direct methods in the injection zone(s); and,	40 CFR 146.90(g)(1)		
Indirect methods (e.g., seismic, electrical, gravity, or	40 CFR 146.90(g)(2)		

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electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the Director determines, based on site-specific geology, that such methods are not appropriate;			
The Director may require surface air monitoring and/or soil gas monitoring to detect movement of carbon dioxide that could endanger a USDW.	40 CFR 146.90(h)		
Design of Class VI surface air and/or soil gas monitoring must be based on potential risks to USDWs within the area of review;	40 CFR 146.90(h)(1)		
The monitoring frequency and spatial distribution of surface air monitoring and/or soil gas monitoring must be decided using baseline data, and the monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under 40 CFR 144.12;	40 CFR 146.90(h)(2)		
If an owner or operator demonstrates that monitoring employed under 40 CFR 98.440 to 98.449 of this chapter (Clean Air Act, 42 U.S.C. 7401 *et seq*.) accomplishes the goals of (h)(1) and (2) of this section, and meets the requirements pursuant to 40 CFR 146.91(c)(5), a Director that requires surface air/soil gas monitoring must approve the use of monitoring employed under 98.440 to 98.449 of this chapter. Compliance with 40 CFR 98.440 to 98.449 of this chapter pursuant to this provision is considered a condition of the Class VI permit;	40 CFR 146.90(h)(3)		
Any additional monitoring, as required by the Director, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under 40 CFR 146.84(c) and to determine compliance with standards under 40 CFR 144.12;	40 CFR 146.90(i)		
The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under this subpart, operational data collected under 40 CFR 146.88, and the most recent area of review reevaluation performed under 40 CFR 146.84(e). In no case shall the owner or operator review the testing and monitoring plan less often than once every five years. Based on this review, the owner or operator shall submit an amended testing and monitoring plan or demonstrate to the Director that no amendment to the testing and monitoring plan is needed. Any	40 CFR 146.90(j)		

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amendments to the testing and monitoring plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate. Amended plans or demonstrations shall be submitted to the Director as follows:			
Within one year of an area of review reevaluation;	40 CFR 146.90(j)(1)		
Following any significant changes to the facility, such as addition of monitoring wells or newly permitted injection wells within the area of review, on a schedule determined by the Director; or	40 CFR 146.90(j)(2)		
When required by the Director.	40 CFR 146.90(j)(3)		
A quality assurance and surveillance plan for all testing and monitoring requirements.	40 CFR 146.90(k)		
40 CFR 146.91 Reporting requirements.			
The owner or operator must, at a minimum, provide, as specified in paragraph (e) of this section, the following reports to the Director, for each permitted Class VI well:	40 CFR 146.91		
Semi-annual reports containing:	40 CFR 146.91(a)		
Any changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data;	40 CFR 146.91(a)(1)		
Monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure;	40 CFR 146.91(a)(2)		
A description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;	40 CFR 146.91(a)(3)		
A description of any event which triggers a shut-off device required pursuant to 40 CFR 146.88(e) and the response taken;	40 CFR 146.91(a)(4)		
The monthly volume and/or mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;	40 CFR 146.91(a)(5)		
Monthly annulus fluid volume added; and	40 CFR 146.91(a)(6)		
The results of monitoring prescribed under 40 CFR 146.90.	40 CFR 146.91(a)(7)		
Report, within 30 days, the results of:	40 CFR 146.91(b)		

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Periodic tests of mechanical integrity;	40 CFR 146.91(b)(1)		
Any well workover; and,	40 CFR 146.91(b)(2)		
Any other test of the injection well conducted by the permittee if required by the Director.	40 CFR 146.91(b)(3)		
Report, within 24 hours:	40 CFR 146.91(c)		
Any evidence that the injected carbon dioxide stream or associated pressure front may cause an endangerment to a USDW;	40 CFR 146.91(c)(1)		
Any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs;	40 CFR 146.91(c)(2)		
Any triggering of a shut-off system (i.e., down-hole or at the surface);	40 CFR 146.91(c)(3)		
Any failure to maintain mechanical integrity; or.	40 CFR 146.91(c)(4)		
Pursuant to compliance with the requirement at 40 CFR 146.90(h) for surface air/soil gas monitoring or other monitoring technologies, if required by the Director, any release of carbon dioxide to the atmosphere or biosphere.	40 CFR 146.91(c)(5)		
Owners or operators must notify the Director in writing 30 days in advance of:	40 CFR 146.91(d)		
Any planned well workover;	40 CFR 146.91(d)(1)		
Any planned stimulation activities, other than stimulation for formation testing conducted under 40 CFR 146.82; and	40 CFR 146.91(d)(2)		
Any other planned test of the injection well conducted by the permittee.	40 CFR 146.91(d)(3)		
Regardless of whether a State has primary enforcement responsibility, owners or operators must submit all required reports, submittals, and notifications under subpart H of this part to EPA in an electronic format approved by EPA.	40 CFR 146.91(e)		
Records shall be retained by the owner or operator as follows:	40 CFR 146.91(f)		
All data collected under 40 CFR 146.82 for Class VI permit applications shall be retained throughout the life of the geologic sequestration project and for 10 years following site closure.	40 CFR 146.91(f)(1)		

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Data on the nature and composition of all injected fluids collected pursuant to 40 CFR 146.90(a) shall be retained until 10 years after site closure. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.	40 CFR 146.91(f)(2)		
Monitoring data collected pursuant to 40 CFR 146.90(b) through (i) shall be retained for 10 years after it is collected.	40 CFR 146.91(f)(3)		
Well plugging reports, post-injection site care data, including, if appropriate, data and information used to develop the demonstration of the alternative post-injection site care timeframe, and the site closure report collected pursuant to requirements at 40 CFR 146.93(f) and (h) shall be retained for 10 years following site closure.	40 CFR 146.91(f)(4)		
The Director has authority to require the owner or operator to retain any records required in this subpart for longer than 10 years after site closure.	40 CFR 146.91(f)(5)		
40 CFR 146.92 Injection well plugging.			
Prior to the well plugging, the owner or operator must flush each Class VI injection well with a buffer fluid, determine bottomhole reservoir pressure, and perform a final external mechanical integrity test.	40 CFR 146.92(a)		
Well Plugging Plan. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan that is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application and must include the following information:	40 CFR 146.92(b)		
Appropriate tests or measures for determining bottomhole reservoir pressure;	40 CFR 146.92(b)(1)		
Appropriate testing methods to ensure external mechanical integrity as specified in 40 CFR 146.89;	40 CFR 146.92(b)(2)		
The type and number of plugs to be used;	40 CFR 146.92(b)(3)		
The placement of each plug, including the elevation of the top and	40 CFR 146.92(b)(4)		

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bottom of each plug;			
The type, grade, and quantity of material to be used in plugging. The material must be compatible with the carbon dioxide stream; and	40 CFR 146.92(b)(5)		
The method of placement of the plugs.	40 CFR 146.92(b)(6)		
Notice of intent to plug. The owner or operator must notify the Director in writing pursuant to 40 CFR 146.91(e), at least 60 days before plugging of a well. At this time, if any changes have been made to the original well plugging plan, the owner or operator must also provide the revised well plugging plan. The Director may allow for a shorter notice period. Any amendments to the injection well plugging plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate.	40 CFR 146.92(c)		
Plugging report. Within 60 days after plugging, the owner or operator must submit, pursuant to 40 CFR 146.91(e), a plugging report to the Director. The report must be certified as accurate by the owner or operator and by the person who performed the plugging operation (if other than the owner or operator.) The owner or operator shall retain the well plugging report for 10 years following site closure.	40 CFR 146.92(d)		
40 CFR 146.93 Post-injection site care and site closure.			
The owner or operator of a Class VI well must prepare, maintain, and comply with a plan for post-injection site care and site closure that meets the requirements of paragraph (a)(2) of this section and is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.	40 CFR 146.93(a)		
The owner or operator must submit the post-injection site care and site closure plan as a part of the permit application to be approved by the Director.	40 CFR 146.93(a)(1)		
The post-injection site care and site closure plan must include the following information:	40 CFR 146.93(a)(2)		
The pressure differential between pre-injection and predicted post-	40 CFR 146.93(a)(2)(i)		

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injection pressures in the injection zone(s);			
The predicted position of the carbon dioxide plume and associated pressure front at site closure as demonstrated in the area of review evaluation required under 40 CFR 146.84(c)(1);	40 CFR 146.93(a)(2)(ii)		
A description of post-injection monitoring location, methods, and proposed frequency;	40 CFR 146.93(a)(2)(iii)		
A proposed schedule for submitting post-injection site care monitoring results to the Director pursuant to 40 CFR 146.91(e); and,	40 CFR 146.93(a)(2)(iv)		
The duration of the post-injection site care timeframe and, if approved by the Director, the demonstration of the alternative post-injection site care timeframe that ensures non-endangerment of USDWs.	40 CFR 146.93(a)(2)(v)		
Upon cessation of injection, owners or operators of Class VI wells must either submit an amended post-injection site care and site closure plan or demonstrate to the Director through monitoring data and modeling results that no amendment to the plan is needed. Any amendments to the post-injection site care and site closure plan must be approved by the Director, be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate.	40 CFR 146.93(a)(3)		
At any time during the life of the geologic sequestration project, the owner or operator may modify and resubmit the post-injection site care and site closure plan for the Director's approval within 30 days of such change.	40 CFR 146.93(a)(4)		
The owner or operator shall monitor the site following the cessation of injection to show the position of the carbon dioxide plume and pressure front and demonstrate that USDWs are not being endangered.	40 CFR 146.93(b)		
Following the cessation of injection, the owner or operator shall continue to conduct monitoring as specified in the Director-approved post-injection site care and site closure plan for at least 50 years or for the duration of the alternative timeframe approved by the Director pursuant to requirements in paragraph (c) of this section, unless he/she makes a demonstration under (b)(2) of this	40 CFR 146.93(b)(1)		

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section. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under (b)(2) of this section is submitted and approved by the Director.			
If the owner or operator can demonstrate to the satisfaction of the Director before 50 years or prior to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the geologic sequestration project no longer poses an endangerment to USDWs, the Director may approve an amendment to the post-injection site care and site closure plan to reduce the frequency of monitoring or may authorize site closure before the end of the 50-year period or prior to the end of the approved alternative timeframe, where he or she has substantial evidence that the geologic sequestration project no longer poses a risk of endangerment to USDWs.	40 CFR 146.93(b)(2)		
Prior to authorization for site closure, the owner or operator must submit to the Director for review and approval a demonstration, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs.	40 CFR 146.93(b)(3)		
If the demonstration in paragraph (b)(3) of this section cannot be made (i.e., additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs) at the end of the 50-year period or at the end of the approved alternative timeframe, or if the Director does not approve the demonstration, the owner or operator must submit to the Director a plan to continue post-injection site care until a demonstration can be made and approved by the Director.	40 CFR 146.93(b)(4)		
Demonstration of alternative post-injection site care timeframe. At the Director's discretion, the Director may approve, in consultation with EPA, an alternative post-injection site care timeframe other than the 50 year default, if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to 40 CFR 146.82 and 146.83, and must contain	40 CFR 146.93(c)		

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substantial evidence that the geologic sequestration project will no longer pose a risk of endangerment to USDWs at the end of the alternative post-injection site care timeframe.			
A demonstration of an alternative post-injection site care timeframe must include consideration and documentation of:	40 CFR 146.93(c)(1)		
The results of computational modeling performed pursuant to delineation of the area of review under 40 CFR 146.84;	40 CFR 146.93(c)(1)(i)		
The predicted timeframe for pressure decline within the injection zone, and any other zones, such that formation fluids may not be forced into any USDWs; and/or the timeframe for pressure decline to pre-injection pressures;	40 CFR 146.93(c)(1)(ii)		
The predicted rate of carbon dioxide plume migration within the injection zone, and the predicted timeframe for the cessation of migration;	40 CFR 146.93(c)(1)(iii)		
A description of the site-specific processes that will result in carbon dioxide trapping including immobilization by capillary trapping, dissolution, and mineralization at the site;	40 CFR 146.93(c)(1)(iv)		
The predicted rate of carbon dioxide trapping in the immobile capillary phase, dissolved phase, and/or mineral phase;	40 CFR 146.93(c)(1)(v)		
The results of laboratory analyses, research studies, and/or field or site-specific studies to verify the information required in paragraphs (iv) and (v) of this section;	40 CFR 146.93(c)(1)(vi)		
A characterization of the confining zone(s) including a demonstration that it is free of transmissive faults, fractures, and micro-fractures and of appropriate thickness, permeability, and integrity to impede fluid (e.g., carbon dioxide, formation fluids) movement;	40 CFR 146.93(c)(1)(vii)		
The presence of potential conduits for fluid movement including planned injection wells and project monitoring wells associated with the proposed geologic sequestration project or any other projects in proximity to the predicted/modeled, final extent of the carbon dioxide plume and area of elevated pressure;	40 CFR 146.93(c)(1)(viii)		
A description of the well construction and an assessment of the quality of plugs of all abandoned wells within the area of review;	40 CFR 146.93(c)(1)(ix)		

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The distance between the injection zone and the nearest USDWs above and/or below the injection zone; and	40 CFR 146.93(c)(1)(x)		
Any additional site-specific factors required by the Director.	40 CFR 146.93(c)(1)(xi)		
Information submitted to support the demonstration in paragraph (c)(1) of this section must meet the following criteria:	40 CFR 146.93(c)(2)		
All analyses and tests performed to support the demonstration must be accurate, reproducible, and performed in accordance with the established quality assurance standards;	40 CFR 146.93(c)(2)(i)		
Estimation techniques must be appropriate and EPA-certified test protocols must be used where available;	40 CFR 146.93(c)(2)(ii)		
Predictive models must be appropriate and tailored to the site conditions, composition of the carbon dioxide stream and injection and site conditions over the life of the geologic sequestration project;	40 CFR 146.93(c)(2)(iii)		
Predictive models must be calibrated using existing information (e.g., at Class I, Class II, or Class V experimental technology well sites) where sufficient data are available;	40 CFR 146.93(c)(2)(iv)		
Reasonably conservative values and modeling assumptions must be used and disclosed to the Director whenever values are estimated on the basis of known, historical information instead of site-specific measurements;	40 CFR 146.93(c)(2)(v)		
An analysis must be performed to identify and assess aspects of the alternative post-injection site care timeframe demonstration that contribute significantly to uncertainty. The owner or operator must conduct sensitivity analyses to determine the effect that significant uncertainty may contribute to the modeling demonstration.	40 CFR 146.93(c)(2)(vi)		
An approved quality assurance and quality control plan must address all aspects of the demonstration; and,	40 CFR 146.93(c)(2)(vii)		
Any additional criteria required by the Director.	40 CFR 146.93(c)(2)(viii)		
Notice of intent for site closure. The owner or operator must notify the Director in writing at least 120 days before site closure. At this time, if any changes have been made to the original post-injection site care and site closure plan, the owner or operator must also provide the revised plan. The Director may allow for a shorter	40 CFR 146.93(d)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
notice period.			
After the Director has authorized site closure, the owner or operator must plug all monitoring wells in a manner which will not allow movement of injection or formation fluids that endangers a USDW.	40 CFR 146.93(e)		
The owner or operator must submit a site closure report to the Director within 90 days of site closure, which must thereafter be retained at a location designated by the Director for 10 years. The report must include:	40 CFR 146.93(f)		
Documentation of appropriate injection and monitoring well plugging as specified in 40 CFR 146.92 and paragraph (e) of this section. The owner or operator must provide a copy of a survey plat which has been submitted to the local zoning authority designated by the Director. The plat must indicate the location of the injection well relative to permanently surveyed benchmarks. The owner or operator must also submit a copy of the plat to the Regional Administrator of the appropriate EPA Regional Office;	40 CFR 146.93(f)(1)		
Documentation of appropriate notification and information to such State, local and Tribal authorities that have authority over drilling activities to enable such State, local, and Tribal authorities to impose appropriate conditions on subsequent drilling activities that may penetrate the injection and confining zone(s); and	40 CFR 146.93(f)(2)		
Records reflecting the nature, composition, and volume of the carbon dioxide stream.	40 CFR 146.93(f)(3)		
Each owner or operator of a Class VI injection well must record a notation on the deed to the facility property or any other document that is normally examined during title search that will in perpetuity provide any potential purchaser of the property the following information:	40 CFR 146.93(g)		
The fact that land has been used to sequester carbon dioxide;	40 CFR 146.93(g)(1)		
The name of the State agency, local authority, and/or Tribe with which the survey plat was filed, as well as the address of the Environmental Protection Agency Regional Office to which it was submitted; and	40 CFR 146.93(g)(2)		
The volume of fluid injected, the injection zone or zones into	40 CFR 146.93(g)(3)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
which it was injected, and the period over which injection occurred.			
The owner or operator must retain for 10 years following site closure, records collected during the post-injection site care period. The owner or operator must deliver the records to the Director at the conclusion of the retention period, and the records must thereafter be retained at a location designated by the Director for that purpose.	40 CFR 146.93(h)		
40 CFR 146.94 Emergency and remedial response.			
As part of the permit application, the owner or operator must provide the Director with an emergency and remedial response plan that describes actions the owner or operator must take to address movement of the injection or formation fluids that may cause an endangerment to a USDW during construction, operation, and post-injection site care periods. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.	40 CFR 146.94(a)		
If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, the owner or operator must:	40 CFR 146.94(b)		
Immediately cease injection;	40 CFR 146.94(b)(1)		
Take all steps reasonably necessary to identify and characterize any release;	40 CFR 146.94(b)(2)		
Notify the Director within 24 hours; and	40 CFR 146.94(b)(3)		
Implement the emergency and remedial response plan approved by the Director.	40 CFR 146.94(b)(4)		
The Director may allow the operator to resume injection prior to remediation if the owner or operator demonstrates that the injection operation will not endanger USDWs.	40 CFR 146.94(c)		
The owner or operator shall periodically review the emergency and remedial response plan developed under paragraph (a) of this section. In no case shall the owner or operator review the emergency and remedial response plan less often than once every five years. Based on this review, the owner or operator shall submit	40 CFR 146.94(d)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
an amended emergency and remedial response plan or demonstrate to the Director that no amendment to the emergency and remedial response plan is needed. Any amendments to the emergency and remedial response plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate. Amended plans or demonstrations shall be submitted to the Director as follows:			
Within one year of an area of review reevaluation;	40 CFR 146.94(d)(1)		
Following any significant changes to the facility, such as addition of injection or monitoring wells, on a schedule determined by the Director; or	40 CFR 146.94(d)(2)		
When required by the Director.	40 CFR 146.94(d)(3)		
40 CFR 146.95 Class VI injection depth waiver requirements.			
This section sets forth information which an owner or operator seeking a waiver of the Class VI injection depth requirements must submit to the Director; information the Director must consider in consultation with all affected Public Water System Supervision Directors; the procedure for Director – Regional Administrator communication and waiver issuance; and the additional requirements that apply to owners or operators of Class VI wells granted a waiver of the injection depth requirements.	40 CFR 146.95		
In seeking a waiver of the requirement to inject below the lowermost USDW, the owner or operator must submit a supplemental report concurrent with permit application. The supplemental report must include the following,	40 CFR 146.95(a)		
A demonstration that the injection zone(s) is/are laterally continuous, is not a USDW, and is not hydraulically connected to USDWs; does not outcrop; has adequate injectivity, volume, and sufficient porosity to safely contain the injected carbon dioxide and formation fluids; and has appropriate geochemistry.	40 CFR 146.95(a)(1)		
A demonstration that the injection zone(s) is/are bounded by laterally continuous, impermeable confining units above and below the injection zone(s) adequate to prevent fluid movement and pressure buildup outside of the injection zone(s); and that the	40 CFR 146.95(a)(2)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
confining unit(s) is/are free of transmissive faults and fractures. The report shall further characterize the regional fracture properties and contain a demonstration that such fractures will not interfere with injection, serve as conduits, or endanger USDWs.			
A demonstration, using computational modeling, that USDWs above and below the injection zone will not be endangered as a result of fluid movement. This modeling should be conducted in conjunction with the area of review determination, as described in 40 CFR 146.84, and is subject to requirements, as described in 40 CFR 146.84(c), and periodic reevaluation, as described in 40 CFR 146.84(e).	40 CFR 146.95(a)(3)		
A demonstration that well design and construction, in conjunction with the waiver, will ensure isolation of the injectate in lieu of requirements at 146.86(a)(1) and will meet well construction requirements in paragraph (f) of this section.	40 CFR 146.95(a)(4)		
A description of how the monitoring and testing and any additional plans will be tailored to the geologic sequestration project to ensure protection of USDWs above and below the injection zone(s), if a waiver is granted.	40 CFR 146.95(a)(5)		
Information on the location of all the public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review.	40 CFR 146.95(a)(6)		
Any other information requested by the Director to inform the Regional Administrator's decision to issue a waiver.	40 CFR 146.95(a)(7)		
To inform the Regional Administrator's decision on whether to grant a waiver of the injection depth requirements at 40 CFR 144.6, 146.5(f), and 146.86(a)(1), the Director must submit, to the Regional Administrator, documentation of the following:	40 CFR 146.95(b)		
An evaluation of the following information as it relates to siting, construction, and operation of a geologic sequestration project with a waiver:	40 CFR 146.95(b)(1)		
The integrity of the upper and lower confining units;	40 CFR 146.95(b)(1)(i)		
The suitability of the injection zone(s) (e.g., lateral continuity; lack of transmissive faults and fractures; knowledge of current or planned artificial penetrations into the injection zone(s) or	40 CFR 146.95(b)(1)(ii)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
formations below the injection zone);			
The potential capacity of the geologic formation(s) to sequester carbon dioxide, accounting for the availability of alternative injection sites;	40 CFR 146.95(b)(1)(iii)		
All other site characterization data, the proposed emergency and remedial response plan, and a demonstration of financial responsibility;	40 CFR 146.95(b)(1)(iv)		
Community needs, demands, and supply from drinking water resources;	40 CFR 146.95(b)(1)(v)		
Planned needs, potential and/or future use of USDWs and non-USDWs in the area;	40 CFR 146.95(b)(1)(vi)		
Planned or permitted water, hydrocarbon, or mineral resource exploitation potential of the proposed injection formation(s) and other formations both above and below the injection zone to determine if there are any plans to drill through the formation to access resources in or beneath the proposed injection zone(s)/formation(s);	40 CFR 146.95(b)(1)(vii)		
The proposed plan for securing alternative resources or treating USDW formation waters in the event of contamination related to the Class VI injection activity; and,	40 CFR 146.95(b)(1)(viii)		
Any other applicable considerations or information requested by the Director.	40 CFR 146.95(b)(1)(ix)		
Consultation with the Public Water System Supervision Directors of all States and Tribes having jurisdiction over lands within the area of review of a well for which a waiver is sought.	40 CFR 146.95(b)(2)		
Any written waiver-related information submitted by the Public Water System Supervision Director(s) to the (UIC) Director.	40 CFR 146.95(b)(3)		
Pursuant to requirements at 40 CFR 124.10 of this chapter and concurrent with the Class VI permit application notice process, the Director shall give public notice that a waiver application has been submitted. The notice shall clearly state:	40 CFR 146.95(c)		
The depth of the proposed injection zone(s);	40 CFR 146.95(c)(1)		
The location of the injection well(s);	40 CFR 146.95(c)(2)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
The name and depth of all USDWs within the area of review;	40 CFR 146.95(c)(3)		
A map of the area of review;	40 CFR 146.95(c)(4)		
The names of any public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review; and,	40 CFR 146.95(c)(5)		
The results of UIC-Public Water System Supervision consultation required under paragraph (b)(2) of this section.	40 CFR 146.95(c)(6)		
Following public notice, the Director shall provide all information received through the waiver application process to the Regional Administrator. Based on the information provided, the Regional Administrator shall provide written concurrence or non-concurrence regarding waiver issuance.	40 CFR 146.95(d)		
If the Regional Administrator determines that additional information is required to support a decision, the Director shall provide the information. At his or her discretion, the Regional Administrator may require that public notice of the new information be initiated.	40 CFR 146.95(d)(1)		
In no case shall a Director of a State-approved program issue a waiver without receipt of written concurrence from the Regional Administrator.	40 CFR 146.95(d)(2)		
If a waiver is issued, within 30 days of waiver issuance, EPA shall post the following information on the Office of Water's Web site:	40 CFR 146.95(e)		
The depth of the proposed injection zone(s);	40 CFR 146.95(e)(1)		
The location of the injection well(s);	40 CFR 146.95(e)(2)		
The name and depth of all USDWs within the area of review;	40 CFR 146.95(e)(3)		
A map of the area of review;	40 CFR 146.95(e)(4)		
The names of any public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review; and	40 CFR 146.95(e)(5)		
The date of waiver issuance.	40 CFR 146.95(e)(6)		
Upon receipt of a waiver of the requirement to inject below the lowermost USDW for geologic sequestration, the owner or operator of the Class VI well must comply with:	40 CFR 146.95(f)		
All requirements at 40 CFR 146.84, 146.85, 146.87, 146.88,	40 CFR 146.95(f)(1)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
146.89, 146.91, 146.92, and 146.94;			
All requirements at 40 CFR 146.86 with the following modified requirements:	40 CFR 146.95(f)(2)		
The owner or operator must ensure that Class VI wells with a waiver are constructed and completed to prevent movement of fluids into any unauthorized zones including USDWs, in lieu of requirements at 40 CFR 146.86(a)(1).	40 CFR 146.95(f)(2)(i)		
The casing and cementing program must be designed to prevent the movement of fluids into any unauthorized zones including USDWs in lieu of requirements at 40 CFR 146.86(b)(1).	40 CFR 146.95(f)(2)(ii)		
The surface casing must extend through the base of the nearest USDW directly above the injection zone and be cemented to the surface; or, at the Director's discretion, another formation above the injection zone and below the nearest USDW above the injection zone.	40 CFR 146.95(f)(2)(iii)		
All requirements at 40 CFR 146.90 with the following modified requirements:	40 CFR 146.95(f)(3)		
The owner or operator shall monitor the groundwater quality, geochemical changes, and pressure in the first USDWs immediately above and below the injection zone(s); and in any other formations at the discretion of the Director.	40 CFR 146.95(f)(3)(i)		
Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using direct methods to monitor for pressure changes in the injection zone(s); and, indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the Director determines, based on site-specific geology, that such methods are not appropriate.	40 CFR 146.95(f)(3)(ii)		
All requirements at 40 CFR 146.93 with the following, modified post-injection site care monitoring requirements:	40 CFR 146.95(f)(4)		
The owner or operator shall monitor the groundwater quality, geochemical changes and pressure in the first USDWs immediately above and below the injection zone; and in any other formations at the discretion of the Director.	40 CFR 146.95(f)(4)(i)		

Federal Requirement	Federal Citation	State Citation and Regulatory Text (document title, page number, section/paragraph)	Different From Federal Requirement?
Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using direct methods in the injection zone(s); and indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the Director determines based on site-specific geology, that such methods are not appropriate;	40 CFR 146.95(f)(4)(ii)		
Any additional requirements requested by the Director designed to ensure protection of USDWs above and below the injection zone(s).	40 CFR 146.95(f)(5)		
40 CFR PART 147--STATE, TRIBAL, AND EPA-ADMINISTERED UNDERGROUND INJECTION CONTROL PROGRAMS			
SUBPART A--GENERAL PROVISIONS			
40 CFR 147.1 Purpose and scope.			
Class VI well owners or operators must comply with 40 CFR 146.91(e) notwithstanding any State program approvals.	40 CFR 147.1(f)		

Appendix C

Class VI Primacy Application Checklist for Both New SDWA Section 1422 UIC Programs and SDWA Section 1422 UIC Program Revision Applications

Class VI Primacy Application Checklist for Both New UIC Programs and UIC Program Revision Applications

The following Primacy Application Checklist is intended to aid states in ensuring that they have assembled all the necessary documentation for a primacy program application. While it includes the required elements of a primacy program application, it is not a comprehensive list. Therefore, states should refer to 40 CFR 145 Subpart B ("Requirements for State Programs") and 40 CFR 145 Subpart C ("State Program Submissions") for additional information. In addition, states submitting a New UIC Program Application should also refer to 40 CFR 124 ("Procedures for Decision-making") for more information on the primacy and public participation requirements of the UIC Program that must be met before submitting a New UIC Program Application to EPA. Additional information on primacy application materials and requirements can be found in Sections 3 and 4 of this manual.

In addition to completing this checklist below, states can also use the Federal/State Regulatory Comparison Crosswalk included in Appendix B to help identify state statutory or regulatory provisions that correspond to each federal requirement. A completed crosswalk will help EPA in reviewing the state application for UIC/Class VI primacy.

REQUIRED ITEM		**INCLUDED?**
REQUIRED ELEMENTS FOUND IN 40 CFR 145.11 – 145.14 SUBPART B		Yes ☐ No ☐
REQUIRED ELEMENTS FOUND IN 40 CFR 145 SUBPART C (see below)		
New SDWA Section 1422 UIC Program Primacy Applications		
A letter from the Governor of the state requesting program approval as required by 40 CFR 145.22(a)(1)		Yes ☐ No ☐
A complete program description as required by 40 CFR 145.23		Yes ☐ No ☐
	A narrative on the scope, structure, coverage and processes of the state program [40 CFR 145.23(a)]	Yes ☐ No ☐
	A description of the organizational structure/responsibilities, organizational charts, and costs and funding sources of the implementing agency [40 CFR 145.23(b)]	Yes ☐ No ☐
	A description of permitting, administrative and judicial review procedures [40 CFR 145.23(c)]	Yes ☐ No ☐
	Copies of permit, application, reporting and manifest forms [40 CFR 145.23(d)]	Yes ☐ No ☐
	A description of the state's compliance tracking and enforcement program [40 CFR 145.23(e)]	Yes ☐ No ☐
	A schedule for issuing permits [40 CFR 145.23(f)(1)]	Yes ☐ No ☐
	A statement of the state's priorities for issuing Class VI permits and the number of permits that will be issued [40 CFR 145.23(f)(2)]	Yes ☐ No ☐
	A description of how the state will meet the mechanical integrity testing requirements [40 CFR 145.23(f)(3)]	Yes ☐ No ☐
	A description of the state's procedures to notify owners or operators of injection wells of the requirement that they apply for and obtain a permit [40 CFR 145.23(f)(4)]	Yes ☐ No ☐
	A description of how the state will establish and maintain a UIC well inventory [40 CFR 145.23(f)(7)]	Yes ☐ No ☐
	A description of exempted aquifers, expansions of the areal extent of existing	Yes ☐ No ☐

REQUIRED ITEM		INCLUDED?
	aquifer exemptions for Class II EOR/EGR transitioning to Class VI injection, and a summary of supporting data and the specific locations [40 CFR 145.23(f)(9)]	
	A description of the state's transboundary notification and documentation procedures [40 CFR 145.23(f)(13)]	Yes ☐ No ☐
An Attorney General's statement as required by 40 CFR 145.24		Yes ☐ No ☐
A Memorandum of Agreement with the EPA Regional Administrator as required by 40 CFR 145.25		Yes ☐ No ☐
Copies of all applicable state statutes and regulations, including those governing state administrative procedures as required by 40 CFR 145.22(a)(5)		Yes ☐ No ☐
The Federal/State Regulation Comparison Crosswalk (Appendix B of this Manual)		Yes ☐ No ☐
A demonstration of compliance with public participation requirements as required by 40 CFR 145.22(a)(6) and 145.31(a)-(b)		Yes ☐ No ☐
	State issued public notice of the intent to adopt a UIC Program and seek approval from EPA: circulated statewide by large newspapers and mailing directly to interested persons	Yes ☐ No ☐
	Notice indicates when and where the state's proposed program submission may be reviewed by the public	Yes ☐ No ☐
	Notice indicates the cost of obtaining a copy of the submission	Yes ☐ No ☐
	Notice provides for a 30-day public comment period	Yes ☐ No ☐
	Notice schedules a public hearing on the state program	Yes ☐ No ☐
	Notice briefly outlines the fundamental aspects of the state UIC Program	Yes ☐ No ☐
	Notice identifies a person that the public can contact for further information	Yes ☐ No ☐
	Copies of all written comments received by the state	Yes ☐ No ☐
	A transcript, recording or summary of any public hearings	Yes ☐ No ☐
	Responsiveness summary	Yes ☐ No ☐
	Compliance with requirements of 40 CFR 124	Yes ☐ No ☐
SDWA Section 1422 UIC Program Revision Applications		
A modified program description		Yes ☐ No ☐
	A description of the organizational structure for the Primacy Agency [40 CFR 145.23(b)]	Yes ☐ No ☐
	A description of the organizational structure/responsibilities, organizational charts, and costs and funding sources of the implementing agency [40 CFR 145.23(b)]	Yes ☐ No ☐
	A schedule for issuing permits [40 CFR 145.23(f)(1)]	Yes ☐ No ☐
	A statement of the state's priorities for issuing Class VI permits and the number of permits that will be issued [40 CFR 145.23(f)(2)]	Yes ☐ No ☐
	A description of how the state will meet the new mechanical integrity testing requirements [40 CFR 145.23(f)(3)]	Yes ☐ No ☐
	A description of the state's procedures to notify owners or operators of Class I wells previously permitted for geologic sequestration, or any Class V experimental technology wells that are no longer experimental but will continue to inject carbon dioxide for GS, of the requirement that they apply for and obtain a permit [40 CFR 145.23(f)(4)]	Yes ☐ No ☐
	A description of exempted aquifers, expansions of the areal extent of existing aquifer exemptions for Class II EOR/EGR transitioning to Class VI injection, and a summary of supporting data and the specific locations. [40 CFR 145.23(f)(9)]	Yes ☐ No ☐
	A description of the state's transboundary notification and documentation	Yes ☐ No ☐

REQUIRED ITEM	INCLUDED?
procedures [40 CFR 145.23(f)(13)]	
An updated Attorney General's statement as required by 40 CFR 145.24	Yes ☐ No ☐
A revised Memorandum of Agreement with the EPA Regional Administrator as required by 40 CFR 145.25	Yes ☐ No ☐
Copies of all applicable state statutes and regulations, including those governing state administrative procedures as required by 40 CFR 145.25.22(a)(5)	Yes ☐ No ☐
The Federal/State Regulation Comparison Crosswalk (Appendix B of this Manual)	Yes ☐ No ☐

Appendix D

Example Memorandum of Agreement

MEMORANDUM OF AGREEMENT
Between
Insert Name of State
And
The United States Environmental Protection Agency Region Insert Region Number

I. General

This Memorandum of Agreement ("Agreement") establishes policies, responsibilities and procedures pursuant to 40 CFR parts 124, 144, 145, 146, and Section 1421 of the Safe Drinking Water Act ("SDWA" or "the Act") for Insert Name of State Underground Injection Control Program ("state program") as authorized by Part C of SDWA (P.L. 93-523 as amended; 42 U.S.C. 300f *et seq.*).

This Agreement is entered into by Insert Name of State and signed by Insert Name of State Signer of Insert Name of State Agency (*e.g. Department of Environmental Protection*), (hereafter, "the state" or "the Department") with the United States Environmental Protection Agency, Region Insert Region Number, and signed by Insert Name of Regional Administrator, Regional Administrator (hereafter, "EPA" or "Regional Administrator"). This Agreement shall become effective when approved by the Regional Administrator.

A. Lead Agency Responsibilities

The lead agency, Insert Name of State Agency that receives the annual program grant, as designated by the Governor of the state, is also the lead agency to coordinate the state program. This lead agency shall coordinate the state program to facilitate communication between the EPA and the state agencies having program responsibilities. These responsibilities shall include, but not be limited to, the submission of grant applications, reporting and monitoring results, and annual report requirements. The Department is responsible for and has authority over all Class Insert All Applicable Well Classes injection wells.

B. Review and Modifications

This Agreement shall be reviewed annually as part of the annual program grant and State/EPA Agreement ("SEA") process. The annual program grant and the SEA shall be consistent with this Agreement and may not override this Agreement.

This Agreement may be modified upon the initiative of the state or the EPA. Modifications must be in writing and must be signed by the Department and the Regional Administrator. Modifications become effective when signed by both parties. Modifications may be made by revision prior to the effective date of this Agreement or subsequently by addenda attached to this Agreement and consecutively numbered, signed, and dated.

C. Conformance with Laws and Regulations

The Department shall administer the Underground Injection Control (UIC) program consistent with the state's submission for program approval, this MOA, SDWA, current federal policies and regulations, promulgated minimum requirements, priorities established as part of the annually approved state UIC grant, state and federal law, and any separate working agreements which shall be entered into with the Regional Administrator as necessary for the full administration of the UIC program.

D. Responsibilities of Parties

Each of the parties has responsibilities to assure that the UIC requirements are met. The parties agree to maintain a high level of cooperation and coordination between state and EPA staffs in a partnership to assure successful and effective administration of the UIC program. In this partnership, the Regional Administrator will provide to the Department necessary technical and policy assistance on program matters.

The Regional Administrator is responsible for keeping the Department apprised, in a timely manner, of the meaning and content of the federal guidelines, technical standards, regulations, policy decisions, directives, and any other factors which affect the UIC program.

The strategies and priorities for issuance, compliance, monitoring and enforcement of permits, and implementation of technical requirements shall be established in the state's program description, the annual SEA, or in subsequent working agreements. If requested by either party, meetings will be scheduled at reasonable intervals between the state and EPA to review specific operating procedures, resolve problems, or discuss mutual concerns involving the administration of the UIC program.

E. Sharing of Information

The Department shall promptly inform EPA of any proposed, pending, or enacted modifications to laws, regulations, or guidelines, and any judicial decisions or administrative actions, which might affect the state program and the state's authority to administer the program. The Department shall promptly inform EPA of any resource allocation changes (for example, personnel budget, equipment, etc.) which might affect the state's ability to administer the program.

Any information obtained or used by the state under its UIC program shall be available to EPA upon request without restriction. If the information has been submitted to the state under a claim of confidentiality, the state must submit that claim to EPA when providing EPA such information. Any information obtained from a state and subject to a claim of confidentiality will be treated in accordance with 40 CFR Part 2. If EPA obtains information from the state that is not claimed to be confidential, EPA may make that information available to the public without further notice.

EPA shall furnish the state the information in its files not submitted under a claim of confidentiality which the state needs to implement its approved program. EPA shall furnish to states information submitted to EPA under a claim of confidentiality which the state needs to implement its approved program subject to conditions in 40 CFR Part 2.

F. Duty to Revise Program

As stated in 40 CFR 145.32(e), within 270 days of any amendment to any regulation promulgated at 40 CFR 124, 144, 145 or 146 revising or adding any requirement respecting state UIC programs, the state shall submit notice to EPA showing that the state program meets the revised or added requirements.

G. Duration of MOA

This Agreement will remain in effect until such time as state primacy enforcement responsibility is returned to EPA by the state, or withdrawn by EPA, according to the provisions of 40 CFR Part 145.31.

H. General Provisions

Nothing in this Agreement is intended to affect any UIC or program requirement, including any standards or prohibitions established by state or local law, as long as the state or local requirements are no less

stringent than or are deemed equally protective as: (1) any set forth in the UIC regulations; or (2) other requirements or prohibitions established under SDWA or applicable regulations.

Nothing in this Agreement shall be construed to limit the authority of the EPA to take action pursuant to Sections 1421, 1422, 1424, 1425, 1426, 1431 or other sections of SDWA.

This MOA does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not party to this agreement, against Insert Name of State Agency or EPA, their officers or employees, or any other person. This MOA does not direct or apply to any person outside of Insert Name of State Agency and EPA.

II. Permitting

A. General

Thes state is responsible for expeditiously drafting, circulating, issuing, modifying, reissuing, and terminating UIC permits and shall do so in accordance with 40 CFR Part 124.3. The Director shall review and issue permits based on the permit conditions of 40 CFR Parts 144-146, and 40 CFR 148. Permits shall be issued which comply with applicable Federal and state requirements. Class VI permits shall be modified pursuant to 40 CFR 144.39 (permit modifications) and 40 CFR 144.41 (minor modifications).

All Class VI permits shall meet the public participation requirements at 40 CFR 25 and 124, interstate coordination requirements at 40 CFR 146.82(b), and permitting procedures at 40 CFR 124 for Class VI wells.

B. Class VI Injection Depth Waivers

The state shall provide all information received through the injection depth waiver application process described in 40 CFR 146.95, to the Regional Administrator. Based on the information provided, the Regional Administrator shall provide written concurrence or non-concurrence regarding waiver issuance. The state shall not issue a Class VI injection depth waiver without receipt of written concurrence from the Regional Administrator.

C. Post-Injection Site Care and Site Closure

The state and EPA agree to consult on any alternative post-injection site care timeframes (other than the 50 year default timeframe required by 40 CFR 146.93), if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs.

Pursuant to 40 CFR 145.1(g), nothing in this MOA precludes the state from adopting or enforcing requirements which are more stringent or more extensive than those required under federal regulations, and if the state program has a greater scope of coverage than required by Federal law, the additional coverage is not part of the federally approved program.

D. Transfer of Responsibility from EPA

The Regional Administrator shall transfer from EPA to the state any pending permit, applications and any other information relevant to program operation not already in the possession of the state Director when a state assumes primacy for the program.

[NOTE ---If a state lacks the authority to directly administer permits issued by the Federal government, a procedure should be established to transfer responsibility for these permits.

For example, EPA and the state and the permittee could agree that the state would issue a permit(s) identical to the outstanding Federal permit which would simultaneously be terminated.]

E. Coordination with EPA (Discretionary)

EPA and the state may coordinate when appropriate the processing of permits for facilities or activities that require permits from both EPA and the state under different programs.

[NOTE ---To promote efficiency and to avoid duplication and inconsistency, states are encouraged to enter into joint processing agreements with EPA for permit issuance. Likewise, states are encouraged to coordinate or consolidate their own permit programs and activities.]

F. Consolidation of Permit Issuance (Discretionary)

The state and EPA may agree on provisions for joint processing of permits for facilities or activities which require permits from both EPA and the state under different programs. The state and EPA may consolidate draft permits, fact sheets, public comment periods, and any public hearings on those permits which are jointly processed. The Director shall not, however, proceed with joint processing of permits if this would result in an unreasonable delay in the issuance of one or more permits.

G. Compliance Schedule and Reports

The Director agrees to establish compliance schedules in permits where appropriate and to require periodic reporting on compliance with compliance schedules and other permit conditions.

H. Environmental Justice

The UIC Program Director agrees to examine the potential risks of a proposed Class VI well within his or her jurisdiction to identify and address any particular impacts on minority and low-income populations.

III. Compliance Monitoring

H. General

The state shall operate a timely and effective compliance monitoring system to track compliance with program requirements. For purposes of this Agreement, the terms “compliance monitoring” or “compliance evaluation” shall refer to all efforts associated with determining compliance with UIC program requirements.

I. Compliance Schedule

The state agrees to maintain procedures to receive, evaluate, retain, and investigate all notices and reports that are required by program regulations. These procedures shall also include the necessary elements to investigate the failure of persons required to submit such notices and reports. The state shall initiate appropriate compliance actions when required information is not received or when the reports are not submitted.

J. Review of Compliance Reports

The state shall conduct a timely and substantive review of all such reports to determine compliance status. The state shall operate a tracking system to determine if: (1) the reports required by program regulations are submitted; (2) the submitted reports are complete and accurate; and (3) the program requirements are met. The reports and notices shall be evaluated for compliance status in accordance with the state compliance program and the program requirements.

K. Inspection and Surveillance

The Department agrees to have inspection and surveillance procedures to determine compliance or noncompliance with the applicable requirements of the UIC program. Survey or other methods of surveillance shall be utilized to identify persons who have not complied with program requirements. Any compilations, index, or inventory obtained for such facilities or activities shall be made available to the Regional Administrator upon request.

The Department shall conduct inspections of the facilities and activities subject to regulatory requirements. These compliance monitoring inspections shall be performed to assess compliance with all UIC program requirements and include selecting and evaluating a facility's monitoring and reporting program. These inspections shall be conducted to determine compliance or noncompliance, verify the accuracy of information submitted in reporting forms and monitoring data, and to verify the adequacy of sampling, monitoring, and other methods to provide the information.

L. Authority to Enter

The Department (and other state designees) engaged in compliance monitoring and evaluation shall have the authority to enter any site or premises subject to regulation or to review and copy the records of relevant program operations where such records are kept.

M. Admissibility

Any investigatory inspections shall be conducted and samples and other information collected in a manner to provide evidence admissible in an enforcement proceeding or in court.

IV. Enforcement

A. General

The state is responsible for taking timely and appropriate enforcement action against persons in violation of program requirements, compliance schedules, technical requirements and other UIC program requirements. This includes violations detected by state or federal inspections.

The state shall notify EPA of any enforcement actions taken by the state. Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the State has failed to take timely enforcement action. Such a determination shall result in EPA filing an action to enforce the state's rules consistent with Section 1423 of the SDWA.

Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the state has failed to take timely enforcement action.

B. Enforcement Mechanisms

The state shall have the mechanism to restrain immediately and effectively any person engaging in any unauthorized activity or operation, which is endangering or causing damage to public health or the environment as applicable to the program requirements. The state agency administering the program shall also have the means to sue in courts of competent jurisdiction to prohibit any threatened or continuing violation of any program requirement. Additionally, the state agency administering the program shall have the mechanism to access or sue to recover in court civil penalties and criminal remedies as established in 40 CFR 145.13.

C. EPA Enforcement

Nothing in this Agreement shall affect EPA's authority or responsibility to take enforcement actions under Sections 1423 and 1431 of SDWA.

When the state has a fully approved program, the EPA will not take enforcement actions without providing prior notice to the state and otherwise complying with sections 1423 and 1431 of SDWA.

D. Assessment of Fines

The state shall agree to assess civil penalties in amounts appropriate to the violation as required in Section 145.13(c) of the regulations.

V. EPA Oversight

A. General

EPA shall oversee the state's administration of the UIC program on a continuing basis to assure that such administration is consistent with this MOA, the state UIC grant application, and all applicable requirements embodied in current regulations, policies and federal law.

In addition to the specific oversight activities listed in this section, EPA may from time to time request specific information, and the state shall submit and provide access to files necessary for evaluating the Department's administration of the UIC program.

B. Immediate Reporting on Noncompliance

The Department shall immediately notify the Regional Administrator by telephone, or otherwise, of any major, imminent hazard to public health resulting from the endangerment of an underground source of drinking water of the state by well injection.

C. Program Reports

The state shall submit program reports to the Regional Administrator in accordance with Section 144.8. All Class VI program reports shall be consistent with reporting requirements set forth in 40 CFR 146.91 and shall be submitted to the Regional Administrator in accordance with 40 CFR 144.8. The reports are to be submitted quarterly using the specified 7520 reporting forms and include a narrative.

D. Inspection and Surveillance by EPA

The Regional Administrator may select facilities and activities within the state for EPA inspection.

EPA may conduct such inspections jointly with the state. The Department shall give the Regional Administrator adequate notice to participate in any compliance evaluation inspection scheduled by the state.

The Regional Administrator may also choose to conduct inspections independently of the state's schedule. In such cases, the EPA shall notify the state as least seven (7) days before any inspection that EPA determines to be necessary to allow coordination of scheduling and allow joint inspection. However, if an emergency exists, or for some reason it is impossible to give advance notification, the Regional Administrator may waive advance notification to inspect a facility. In keeping with Section 1445(b)(2) of SDWA, the state understands not to inform the person whose property is to be entered of the pending inspection.

E. Annual Performance Evaluation

EPA shall conduct, at least annually, performance evaluations of the state program using program reports and other requested information to determine state program consistency with the program submission, SDWA applicable regulations, and applicable guidance and policies. The review will not only include a review of financial expenditures but reviews on progress towards program implementation, changes in the program description, and efforts towards progress on program elements.

EPA shall submit a summary of the evaluation findings to the state outlining the deficiencies in program performance and recommendations for improving state operations. The report also might provide guidance for the development of an upcoming grant application. The state shall have 15 working days from the date of receipt to concur with or comment on the findings and recommendations.

VI. Signatures

Insert Name of State Agency

By _____
Insert Name of State Signer
Insert Title of State Signer
Date_____

U.S. Environmental Protection Agency, Region Insert Region Number

By _____
Insert Name of Regional Administrator
Regional Administrator
Date_____

Appendix E

Example Addendum to a Memorandum of Agreement for States with Existing UIC Programs

MEMORANDUM OF AGREEMENT ADDENDUM 1
Between
Insert Name of State
And
The United States Environmental Protection Agency Region Insert Region Number

I. General

The Memorandum of Agreement between the state of Insert Name of State and the EPA Region Insert Region Number, dated Insert date of Underground Injection Control (UIC) Program Memorandum of Agreement (program MOA), is supplemented by this Addendum 1. All terms defined in the program MOA shall have the same meanings for purposes of this Addendum 1.

This Agreement is entered into by Insert Name of State and signed by Insert Name of State Signer of Insert Name of State Agency (*e.g. Department of Environmental Protection*), (hereafter, "the state" or "the Department") with the United States Environmental Protection Agency, Region Insert Region Number, and signed by Insert Name of Regional Administrator, Regional Administrator (hereafter, "EPA" or "Regional Administrator"). This Agreement shall become effective when approved by the Regional Administrator.

A. Lead Agency Responsibilities

The Insert Name of State Agency is the lead agency to coordinate the implementation of the Class VI UIC program. This lead agency shall coordinate the state program to facilitate communication between the EPA and any other state agencies having program responsibilities for other injection well classes. These responsibilities shall include, but not be limited to, the submission of grant applications, reporting and monitoring results, and annual report requirements. The Insert Name of State Agency is responsible for and has authority over all Class VI injection wells.

B. Review and Modifications

This Agreement shall be reviewed annually as part of the annual program grant and State/EPA Agreement ("SEA") process. The annual program grant and the SEA shall be consistent with this Agreement and may not override this Agreement.

This Agreement may be modified upon the initiative of the state or the EPA. Modifications must be in writing and must be signed by the Insert Name of State Agency and the Regional Administrator. Modifications become effective when signed by both parties. Modifications may be made by revision prior to the effective date of this Agreement or subsequently by addenda attached to this Agreement and consecutively numbered, signed, and dated.

C. Conformance with Laws and Regulations

The Insert Name of State shall administer the Class VI UIC program consistent with the state's submission for program approval, the program MOA, this Addendum, the Safe Drinking Water Act (SDWA), current federal policies and regulations, promulgated minimum requirements, priorities established as part of the annually approved state UIC grant, state and federal law, and any separate working agreements which

shall be entered into with the Regional Administrator as necessary for the full administration of the Class VI UIC program.

D. Responsibilities of Parties

Each of the parties has responsibilities to assure that the Class VI UIC requirements are met. The parties agree to maintain a high level of cooperation and coordination between state and EPA staffs in a partnership to assure successful and effective administration of the Class VI UIC program. In this partnership, the Regional Administrator will provide to the Insert Name of State Agency necessary technical and policy assistance on program matters.

The Regional Administrator is responsible for keeping the Insert Name of State Agency apprised, in a timely manner, of the meaning and content of the federal guidelines, technical standards, regulations, policy decisions, directives, and any other factors which affect the UIC program.

The strategies and priorities for issuance, compliance, monitoring and enforcement of permits, and implementation of technical requirements shall be established in the state's program description, the annual SEA, or in subsequent working agreements. If requested by either party, meetings will be scheduled at reasonable intervals between the state and EPA to review specific operating procedures, resolve problems, or discuss mutual concerns involving the administration of the Class VI UIC program.

E. Sharing of Information

The Insert Name of State Agency shall promptly inform EPA of any proposed, pending, or enacted modifications to laws, regulations, or guidelines, and any judicial decisions or administrative actions, which might affect the state program and the state's authority to administer the program. The Insert Name of State Agency shall promptly inform EPA of any resource allocation changes (for example, personnel budget, equipment, etc.) which might affect the state's ability to administer the program.

Any information obtained or used by the state under its Class VI UIC program shall be available to EPA upon request without restriction. If the information has been submitted to the state under a claim of confidentiality, the state must submit that claim to EPA when providing EPA such information. Any information obtained from a state and subject to a claim of confidentiality will be treated in accordance with 40 CFR Part 2. If EPA obtains information from the state that is not claimed to be confidential, EPA may make that information available to the public without further notice.

EPA shall furnish the state the information in its files not submitted under a claim of confidentiality which the state needs to implement its approved program. EPA shall furnish to states information submitted to EPA under a claim of confidentiality which the state needs to implement its approved program subject to conditions in 40 CFR Part 2.

F. Duty to Revise Program

As stated in 40 CFR 145.32(e), within 270 days of any amendment to any regulation promulgated at 40 CFR 124, 144, 145 or 146 revising or adding any requirement respecting state UIC programs, the state shall submit notice to EPA showing that the state program meets the revised or added requirements.

G. Duration of MOA

This Agreement will remain in effect until such time as state primacy enforcement responsibility is returned to EPA by the state, or withdrawn by EPA, according to the provisions of 40 CFR Part 145.31.

H. General Provisions

Nothing in this Agreement is intended to affect any Class VI UIC or program requirement, including any standards or prohibitions established by state or local law, as long as the state or local requirements are no less stringent than or are deemed equally protective as: (1) any set forth in the Class VI UIC regulations; or (2) other requirements or prohibitions established under SDWA or applicable regulations.

Nothing in this Agreement shall be construed to limit the authority of the EPA to take action pursuant to Sections 1421, 1422, 1424, 1425, 1426, 1431 or other sections of SDWA.

This MOA does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not party to this agreement, against Insert Name of State Agency or EPA, their officers or employees, or any other person. This MOA does not direct or apply to any person outside of Insert Name of State Agency and EPA.

II. Permitting

A. General

The state is responsible for expeditiously drafting, circulating, issuing, reissuing, and terminating Class VI permits and shall do so in accordance with 40 CFR Part 124.3. The Director shall review and issue permits based on the permit conditions of 40 CFR Parts 40 CFR 144-146, and 40 CFR 148. Class VI permits shall be modified pursuant to 40 CFR 144.39 (permit modifications) and 40 CFR 144.41 (minor modifications). Permits shall be issued which comply with applicable federal and state requirements.

All Class VI permits shall meet the public participation requirements at 40 CFR 25 and 124, interstate coordination requirements at 40 CFR 146.82(b), and permitting procedures at 40 CFR 124 for Class VI wells.

B. Class VI Injection Depth Waivers

The state shall provide all information received through the injection depth waiver application process described in 40 CFR 146.95, to the Regional Administrator. Based on the information provided, the Regional Administrator shall provide written concurrence or non-concurrence regarding waiver issuance. The state shall not issue a Class VI injection depth waiver without receipt of written concurrence from the Regional Administrator.

C. Post-Injection Site Care and Site Closure

The state and EPA agree to consult on any alternative post-injection site care timeframes (other than the 50 year default timeframe required by 40 CFR 146.93), if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs.

Pursuant to 40 CFR 145.1(g) nothing in this MOA precludes the state from adopting or enforcing requirements which are more stringent or more extensive than those required under federal regulations, and if the state program has a greater scope of coverage than required by Federal law, the additional coverage is not part of the federally approved program.

D. Transfer of Responsibility from EPA

The Regional Administrator shall transfer to the state any pending permits, applications, and any other information relevant to Class VI UIC program operation not already in the possession of the state Director when a state assumes primacy for the Class VI program.

[NOTE ---If a state lacks the authority to directly administer permits issued by the federal government, a procedure should be established to transfer responsibility for these permits. For example, EPA and the state and the permittee could agree that the state would issue a Class VI permit(s) identical to the outstanding Federal permit which would simultaneously be terminated.]

E. Coordination with EPA (Discretionary)

EPA and the state may coordinate when appropriate the processing of permits for facilities or activities that require permits from both EPA and the state under different programs.

[NOTE ---To promote efficiency and to avoid duplication and inconsistency, states are encouraged to enter into joint processing agreements with EPA for permit issuance. Likewise, states are encouraged to coordinate or consolidate their own permit programs and activities.]

F. Consolidation of Permit Issuance (Discretionary)

The state and EPA may agree on provisions for joint processing of permits for facilities or activities which require permits from both EPA and the state under different programs. The state and EPA may consolidate draft permits, fact sheets, public comment periods and any public hearings on those permits which are jointly processed. The Director shall not, however, proceed with joint processing of permits if this would result in unreasonable delay in the issuance of one or more permits.

G. Compliance Schedule and Reports

The Director agrees to establish compliance schedules in permits where appropriate and to require periodic reporting on compliance with compliance schedules and other permit conditions.

H. Environmental Justice

The UIC Program Director agrees to examine the potential risks of a proposed Class VI well within his or her jurisdiction to identify and address any particular impacts on minority and low-income populations.

III. Compliance Monitoring

A. General

The state shall operate a timely and effective compliance monitoring system to track compliance with program requirements. For purposes of this Agreement, the terms “compliance monitoring” or “compliance evaluation” shall refer to all efforts associated with determining compliance with Class VI UIC program requirements.

B. Compliance Schedule

The state agrees to maintain procedures to receive, evaluate, retain and investigate all notices and reports that are required by program regulations. These procedures shall also include the necessary elements to investigate the failure of persons required to submit such notices and reports. The state shall initiate

appropriate compliance actions when required information is not received or when the reports are not submitted.

C. Review of Compliance Reports

The state shall conduct a timely and substantive review of all such reports to determine compliance status. The state shall operate a tracking system to determine if: (1) the reports required by program regulations are submitted; (2) the submitted reports are complete and accurate; and (3) the program requirements are met. The reports and notices shall be evaluated for compliance status in accordance with the state compliance program and the program requirements.

D. Inspection and Surveillance

The Insert Name of State Agency agrees to have inspection and surveillance procedures to determine compliance or noncompliance with the applicable requirements of the Class VI program. Survey or other methods of surveillance shall be utilized to identify persons who have not complied with program requirements. Any compilations, index, or inventory obtained for such facilities or activities shall be made available to the Regional Administrator upon request.

The Insert Name of State Agency shall conduct inspections of the facilities and activities subject to regulatory requirements. These compliance monitoring inspections shall be performed to assess compliance with all UIC program requirements and include selecting and evaluating a facility's monitoring and reporting program. These inspections shall be conducted to determine compliance or noncompliance, verify the accuracy of information submitted in reporting forms and monitoring data, and to verify the adequacy of sampling, monitoring, and other methods to provide the information.

E. Authority to Enter

The Insert Name of State Agency (and other state designees) engaged in compliance monitoring and evaluation shall have the authority to enter any site or premises subject to regulation or to review and copy the records of relevant program operations where such records are kept.

F. Admissibility

Any investigatory inspections shall be conducted and samples and other information collected in a manner to provide evidence admissible in an enforcement proceeding or in court.

IV. Enforcement

A. General

The state is responsible for taking timely and appropriate enforcement action against persons in violation of Class VI program requirements, compliance schedules, technical and other Class VI program requirements. This includes violations detected by state or federal inspections.

The EPA shall be notified of any enforcement actions taken by the state. Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the state has failed to take timely enforcement action. Such a determination shall result in EPA filing an action to enforce the state's rules consistent with Section 1423 of the SDWA.

Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the state has failed to take timely enforcement action.

B. Enforcement Mechanisms

The state shall have the mechanism to restrain immediately and effectively any person engaging in any unauthorized activity or operation, which is endangering or causing damage to public health or the environment as applicable to the program requirements. The state agency administering the Class VI program shall also have the means to sue in courts of competent jurisdiction to prohibit any threatened or continuing violation of any program requirement. Additionally, the state agency administering the Class VI program shall have the mechanism to access or sue to recover in court civil penalties and criminal remedies as established in 40 CFR 145.13.

C. EPA Enforcement

Nothing in this Agreement shall affect EPA's authority or responsibility to take enforcement actions under Sections 1423 and 1431 of SDWA.

When the state has a fully approved Class VI program, the EPA will not take enforcement actions without providing prior notice to the state and otherwise complying with sections 1423 and 1431 of SDWA.

D. Assessment of Fines

The state shall agree to assess civil penalties in amounts appropriate to the violation as required in Section 145.13(c) of the regulations.

V. EPA Oversight

A. General

EPA shall oversee the state's administration of the Class VI program on a continuing basis to assure that such administration is consistent with this Agreement, the program MOA, the state UIC grant application, and all applicable requirements embodied in current regulations, policies, and federal law.

In addition to the specific oversight activities listed in this section, EPA may from time to time request specific information, and the state shall submit and provide access to files necessary for evaluating the state's administration of the Class VI program.

B. Immediate Reporting on Noncompliance

The Insert Name of State Agency shall immediately notify the Regional Administrator by telephone, or otherwise, of any major, imminent hazard to public health resulting from the endangerment of an USDW of the state by well injection.

C. Program Reports

The state shall submit all Class VI program reports to the Regional Administrator in accordance with 40 CFR 144.8. All Class VI program reports shall be consistent with reporting requirements set forth in 40 CFR 146.91 and shall be submitted to the Regional Administrator in accordance with 40 CFR 144.8. The reports are to be submitted quarterly using the specified 7520 reporting forms and include a narrative.

D. Inspection and Surveillance by EPA

The Regional Administrator may select facilities and activities within the state for EPA inspection.

EPA may conduct such inspections jointly with the state. The Insert Name of State Agency shall give the Regional Administrator adequate notice to participate in any compliance evaluation inspection scheduled by the state.

The Regional Administrator may also choose to conduct inspections independently of the state's schedule. In such cases, the EPA shall notify the state as least seven (7) days before any inspection that EPA determines to be necessary to allow coordination of scheduling and allow joint inspection. However, if an emergency exists, or for some reason it is impossible to give advance notification, the Regional Administrator may waive advance notification to inspect a facility. In keeping with Section 1445(b)(2) of SDWA, the state understands not to inform the person whose property is to be entered of the pending inspection.

E. Annual Performance Evaluation

EPA shall conduct, at least annually, performance evaluations of the state program using program reports and other requested information to determine state program consistency with the program submission, SDWA applicable regulations, and applicable guidance and policies. The review will not only include a review of financial expenditures but reviews on progress towards program implementation, changes in the program description, and efforts towards progress on program elements.

EPA shall submit a summary of the evaluation findings to the state outlining the deficiencies in program performance and recommendations for improving state operations. The report also might provide guidance for the development of an upcoming grant application. The state shall have 15 working days from the date of receipt to concur with or comment on the findings and recommendations.

VI. Signatures

Insert Name of State Agency

By _____
Insert Name of State Signer
Insert Title of State Signer
Date_____

U.S. Environmental Protection Agency, Region Insert Region Number

By _____
Insert Name of Regional Administrator
Regional Administrator
Date_____

Appendix F

Example Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING
Between
Insert Name of Agency/Department
And
Insert Name of Agency/Department

I. PURPOSE

This Memorandum of Understanding provides an operating agreement by which ***Insert Name of Agency/Department*** and ***Insert Name of Agency/Department*** shall execute their respective responsibilities concerning regulation of Underground Injection Control (UIC) Class VI wells in the state/Commonwealth of ***Insert Name of State.***

II. BACKGROUND

On December 10, 2010, the United States Environmental Protection Agency published the UIC Geologic Sequestration Class VI Rule (75 FR 77230) under the authority of the Safe Drinking Water Act (SDWA). The Rule defines a new class of injection well, Class VI, used for geologic sequestration of carbon dioxide beneath the lowermost formation containing an underground source of drinking water (USDW).

Currently, ***Insert Name of Agency/Department*** is the designated regulatory authority in the state/Commonwealth of ***Insert Name of State*** responsible for ***Insert Agency/Department's current regulatory responsibility for UIC*** *(e.g., protection of underground sources of drinking water through the regulation of Class I, II, IV, and V Underground Injection Control Wells).* Also currently, ***Insert Name of Agency/Department*** is the designated regulatory authority in the state/Commonwealth ***Insert Name of State*** responsible for ***Insert Agency/Department's current regulatory responsibility for UIC*** *(e.g., administering the Class II Underground Injection Control program).*

Because some of the requirements of the Class VI program may include areas of regulatory overlap (e.g., criteria for siting, area of review, corrective action), ***Insert Name of Agency/Department*** and ***Insert Name of Agency/Department*** agree that it is in their mutual interest and benefit to work cooperatively in implementing the Class VI program.

III. AUTHORITIES

This cooperative agreement is entered into with full recognition of the following regulatory mandates/authorities:

The ***Insert Name of Agency/Department*** has jurisdiction for ***Insert Regulated Activity*** (*e.g. oilfield operations, downhole operations, underground injection control, carbon capture and storage*), in accordance with ***Insert Specific State Regulation Citations Including all Relevant Definitions*** (*e.g. Chapter # of State/Territory/Tribe Environmental Code,* Section __).

The ***Insert Name of Agency/Department*** has jurisdiction for ***Insert Regulated Activity*** (*e.g. permitting other classes of underground injection control wells)*, in accordance with ***Insert Specific State Regulation Citations Including all Relevant Definitions*** (*e.g. Chapter # of State/Territory/Tribe Environmental Code,* Section __).

Insert any specific statutory or regulatory citations, if any, giving the respective Agencies/Departments the authority to enter into this MOU.

IV. SPECIFIC RESPONSIBILITIES

To provide an effective, streamlined, coordinated application and permitting/approval process for Class VI wells, and to reduce or eliminate duplicative administration of regulations and requirements, ***Insert Name of Agency/Department*** and ***Insert Name of Agency/Department*** hereby agree to adhere to the procedures set forth in this MOU for fulfilling the requirements of the UIC Class VI program. The procedures shall be carried out in a cooperative manner, to fulfill the objectives of ***Insert Name of Agency/Department*** and ***Insert Name of Agency/Department***, and reduce regulatory burden.

Insert Name of Agency/Department Responsibility
Insert Class VI Requirement *(e.g. site characterization, reporting, public involvement, etc.)*.
Insert Agency Action
Insert Agency Action
Continue as necessary to describe the specific jurisdictions of the Agency/Department for each Class VI requirement.

Insert Name of Agency/Department Responsibility
Insert Class VI Requirement *(e.g. site characterization, reporting, public involvement, etc.)*.
Insert Agency Action
Insert Agency Action
Continue as necessary to describe the specific jurisdictions of the Agency/Department for each Class VI requirement.

V. INTERAGENCY ACTIVITIES
Insert and describe any activities that require the two agencies to cooperate and describe any procedures (such as the frequency of meetings), to facilitate these activities.

VI. CLASS VI CONTACTS

Insert Name	***Insert Name***
Insert Agency	***Insert Agency***
Insert Address	***Insert Address***
Insert e-mail	***Insert e-mail***
Insert Phone Number	***Insert Phone Number***

VII. TERM OF AGREEMENT

This agreement shall be effective from the date of execution and shall remain in full force and

effect for ***Insert Term of Agreement*** unless terminated earlier by written notice from either party to the other party. This agreement may be modified, extended, or amended upon written request of either party and written concurrence of the other party.

VIII. DISPUTES

Staff from ***Insert Name of Agency/Department*** and ***Insert Name of Agency/Department*** shall meet and attempt to resolve any disputes regarding the interpretation of this MOU or disputes regarding definitions, requirements, or terms of art. Any unresolved disputes shall be elevated to Senior Management level for both Agencies.

IX. APPROVALS

By signature below, the parties to this MOU certify that the individuals listed in this document as representatives of the parties hereto are authorized to act in their respective areas for matters related to this agreement.

Signature of Authorized Representative	***Date***
Signature of Authorized Representative	***Date***
Signature of Authorized Representative	***Date***

Appendix G

Example Attorney General's Statement

Example Attorney General's Statement

I hereby certify, pursuant to my authority as (1) and in accordance with the Safe Drinking Water Act as amended, and 40 CFR 145.24(a), that in my opinion the laws of the [State/Commonwealth of (2)] [or tribal ordinances of (3)] to carry out the program set forth in the State UIC Program Description pursuant to 40 CFR 145.23 submitted by the (4) have been duly adopted and are enforceable. The specific authorities provided are contained in statutes or regulations that are lawfully adopted at the time this Statement is approved and signed and will be fully effective by the time the program is approved.

I. For States with No Audit Privilege and/or Immunity Laws

> Furthermore, I certify that [State/Commonwealth of (2)] has not enacted any environmental audit privilege and/or immunity laws.

II. For States with Audit Laws that do Not Apply to the State Agency Administering the Safe Drinking Water Act

> Furthermore, I certify that the environmental [audit privilege and/or immunity law] of the [State/Commonwealth of (2)] does not affect the ability of (2) to meet enforcement and information gathering requirements under the Safe Drinking Water Act because the [audit privilege and/or immunity law] does not apply to the program set forth in the State UIC Program Description pursuant to 40 CFR 145.23. The Safe Drinking Water Act program set forth in the State UIC Program Description is administered by (4); the [audit privilege and/or immunity law] does not affect programs implemented by (4), thus the program set forth in the Program Description is unaffected by the provisions of [State/Commonwealth of (2)] [audit privilege and/or immunity law].

III. For States with Audit Privilege and/or Immunity Laws that Worked with EPA to Satisfy Requirements for Federally Authorized, Delegated, or Approved Environmental Programs

> Furthermore, I certify that the environmental [audit privilege and/or immunity law] of the [State/Commonwealth of (2)] does not affect the ability of (2) to meet enforcement and information gathering requirements under the Safe Drinking Water Act because [State/Commonwealth of (2)] has enacted statutory revisions and/or issued a clarifying Attorney General's Statement to satisfy requirements for federally authorized, delegated, or approved environmental programs.

Seal of Office

_____
Signature

_____
Name and Title

_____
Date

(1) State Attorney General or attorney for the primacy agency if it has independent legal counsel.
(2) Name of state or commonwealth.
(3) Name of tribe.
(4) Name of primacy agency.

Appendix H

Sample Program Description

Class VI Underground Injection Control Program Description

This document is a template for a Class VI UIC program description that can be used for new SDWA Section 1422 Class VI primacy applications or SDWA Section 1422 program revision applications to add Class VI. Sample text is provided for each program description requirement found at 40 CFR 145.23. States are not required to use this text; rather, it is provided as a guide to illustrate the level of detail EPA expects states to provide in their program descriptions.

For additional details on the requirements for a new SDWA Section 1422 Class VI primacy application, see Section 3.2 of this manual and for additional information about SDWA Section 1422 program revision applications to add Class VI wells, see Section 4.2 of this manual.

1. Program Scope, Structure, Coverage and Processes

Describe the current status of the state's UIC Program, including when and for which well classes the state received primacy under SDWA Section 1422 of SDWA, Class II primacy under SDWA Section 1425 (if applicable), and the agency that will implement the Class VI program. If an agency other than the designated 1422 lead agency will be implementing the Class VI UIC program (or any other agencies will implement related aspects of Class VI well oversight, e.g., inspections), describe the responsibilities of each agency and the procedures for coordination, e.g., via an MOU. An example MOU is included in Appendix F of this manual.

This is required to be included in new primacy applications; program revision applications must contain any relevant updates if information has changed since primacy was approved [40 CFR 145.23(a)].

Sample text is provided below.

[***Insert state name***] received Underground Injection Control (UIC) Program primacy under Section 1422 of SDWA for Classes [***insert all well classes for which the state has primacy under SDWA Section 1422, including Class II if appropriate***] on [***insert approval date***] and designated [***insert name of lead 1422 agency***] as the lead agency to coordinate the state's UIC Program under Section 1422 of SDWA. *If more than one state agency has authority to issue UIC permits, list those agencies and the well classes for which these agencies can issue UIC permits.*

Include this paragraph if applicable: [***Insert state name***] received primacy for Class II wells under Section 1425 of SDWA on [***insert approval date***] and designated [***insert name of 1425 agency***] as the lead agency to coordinate the state's SDWA Section 1425 UIC Program.

Upon approval of primacy for Class VI wells, [***insert name of agency that will oversee Class VI wells***] will have jurisdiction over the Class VI UIC Program and the authority to issue Class VI permits and administer and implement the Class VI Program.

Include this paragraph if applicable: [***Insert name of agency that will oversee Class VI wells***] and [***insert name of lead 1422 agency***] have signed a Memorandum of Understanding that outlines the respective responsibilities of each agency concerning regulation of Class VI wells. This Memorandum of Understanding is provided in the state's primacy application.

2. Implementing Agency Organizational Structure

Describe the organizational structure of the agency administering the Class VI Program, including program staff, organizational charts, and estimated costs and sources of funding for implementing the program for the first 2 years.

Due to the extent and complexity of the information in Class VI permit applications, EPA recommends that the program description include a discussion of how in-house and/or contractor staff collectively have the technical expertise needed to evaluate permit applications and oversee GS projects.

This is required in new primacy applications; program revision applications must include any relevant updates [40 CFR 145.23(b)].

Sample text is provided below.

Staff in [***insert name of Class VI agency***] have [***in-house expertise/ access to contractor staff***] with skills in the technical and policy areas relevant to evaluating Class VI permit applications, issuing Class VI permits, and overseeing GS projects throughout their life span. The state plans to implement a "team" approach to permitting by dividing permit applications among staff with relevant areas of expertise. The table below identifies the sources of this expertise. [***Insert checks in the columns as appropriate.***]

Expertise Area	In-House	Contractor
Site characterization, e.g., geologists, hydrogeologists, geochemists, and log analysts/experts to review site characterization data submitted during permitting and throughout the project duration.	✓	✓
Modeling, e.g., hydrogeologists and environmental/reservoir modelers to evaluate area of review (AoR) delineation computational models during permitting and AoR reevaluations.		
Well construction and testing, e.g., well engineers, log analysts/experts, and geologists to review well construction information and operational reports on the performance of Class VI wells and review/evaluate testing and monitoring reports.		
Finance experts to review financial responsibility information during permitting and annual evaluations of financial instruments.		
Risk analysts to evaluate emergency and remedial response scenario probabilities and remediation cost estimates.		
Policy/regulatory experts on the UIC Program and the Class VI Rule to evaluate compliance with Class VI Rule requirements.		
Enforcement/compliance, e.g., staff who can initiate and pursue appropriate enforcement actions when permit or rule requirements are violated.		
Inspectors including well engineers or log analysts/experts to inspect wells or witness construction activities, workovers, and/or mechanical integrity tests.		

Figure 1 presents an organizational chart of [***insert name of Class VI agency***]. *Insert or attach an organizational chart.*

The state estimates that running the Class VI Program will cost $[***insert estimated annual cost of running the state's Class VI program***] annually. Sources of funding include: [***describe all available funding sources, e.g., grants, salary/contract dollars allocated to the program, dedicated portions of the state budget, etc.***]. The table below illustrates how the state anticipates these funds will be allocated to various program activities. [***Insert percentages or dollar values in the right-hand column.***]

Activity	Annual expenditures/Percent of budget
Permit application reviews and permit issuance.	$/%
Project oversight/review of operating data and testing and monitoring data and reports.	
Inspections/witnessing construction or tests.	
Data management.	
Enforcement/compliance-related activities.	
Program oversight/administration.	

3. Permitting, Administrative and Judicial Review Procedures

Describe the state's procedures for issuing Class VI permits and conducting administrative and judicial reviews. To facilitate review of the primacy application, EPA recommends that the program description heavily reference appropriate sections of the state's regulations.

This is required in new primacy applications; program revision applications must describe all applicable revisions to permitting, administrative, and judicial review procedures [40 CFR 145.23(c)].

Sample text is provided below.

Permitting Procedures

The state's Class VI Program requires all owners or operators seeking to inject carbon dioxide for the purpose of geologic sequestration to obtain a Class VI permit to construct or convert a well and gain approval to operate prior to commencing injection activities.

Class VI permit applications will be reviewed by staff of [***insert name of Class VI agency***] and issued in accordance with [***insert name/citation of the state's Class VI rule***].

Reviewing Class VI Permit Applications

When [***insert name of Class VI agency***] receives a permit application, staff will review it to determine if it contains all of the information outlined in [***insert citation of the section of the state's Class VI rule related to the required elements of a permit application***]. Any deficiencies will be noted and, if necessary, the agency will request additional information from the applicant.

If the owner or operator of a Class II enhanced recovery (ER) well that is transitioning to Class VI determines that it is necessary to expand the areal extent of the original Class II aquifer exemption, the agency will evaluate the request for the expansion following procedures described in Section 11 below and pursuant to the requirements of 40 CFR 144.7(d) and 146.4.

If an injection depth waiver is sought, the agency will evaluate the application for an injection depth waiver to determine if it meets the requirements at [***insert citation of the section of the state's Class VI rule related to injection depth waivers***] and that underground sources of drinking water (USDWs) will be protected. See Section 13 below for more on the state's injection depth waiver program.

After confirming that all of the required information was submitted with the permit application, agency staff will review the Class VI permit application using a multi-step process, as described below.

First, staff will perform a technical review to determine that the submitted data is accurate and of high quality, has undergone appropriate quality assurance procedures, is representative of the project and the site, and is sufficiently complete to support a full technical evaluation.

Next, a full technical evaluation of the submitted information will be performed to support the decision on the suitability of the site per the requirements at [***insert citation of the section of the state's Class VI rule related to minimum criteria for siting GS sites***]. This includes an evaluation of the geologic system, the well, and the proposed operations to ensure that the project will be protective of USDWs.

If the state plans to conduct environmental justice analyses of permit applications, include a paragraph similar to this: The agency will also identify whether any portions of the AoR encompass an environmental justice (EJ) area. If this is the case, the agency will conduct enhanced public outreach activities to these communities, e.g., by providing materials in alternative languages. The agency will conduct outreach to stakeholders, if appropriate.

As needed throughout the permit application review process, agency staff will discuss the application with the owner or operator to ensure that needed information is provided as expeditiously as possible.

Draft Permit Issuance and Public Participation

Upon completion of the permit application evaluation, [***insert name of Class VI agency***] will tentatively determine whether to prepare a draft permit or to deny the application. If the agency prepares a draft permit, the agency will prepare a [***fact sheet/statement of basis***] summarizing the project and issue a public notice of the comment period and a public hearing according to procedures listed in [***insert citation of the section of the state's rules related public notification and hearings***].

The agency will also notify any states, tribes or territories within the area of review of the GS project and document the results of this consultation, pursuant to [***insert citation of the section of the state's Class VI rule related to notifying other jurisdictions about the project***]. See Section 12 for additional information on procedures for this notification.

After completion of the public hearing and review of public comments, a final permitting decision will be made and, if appropriate, a Class VI permit will be issued. The permit will authorize the applicant to construct the injection well or convert an existing well to Class VI. The agency will also issue a response to all public comments received.

Approving Injection in a Class VI Well

Following well drilling/conversion and completion activities, the permit applicant will submit information that the agency will consider in determining whether to approve operation of the injection well. If the information provided meets all the requirements at [***insert citation of the section of the state's Class VI rule related to information to be considered before approving operation***], the agency will authorize the applicant to inject carbon dioxide.

Administrative and Judicial Review of Permits

Administrative reviews of Class VI permits will take place in accordance with [***insert citation of the section of the state's rules related to administrative review of permitting procedures***]. Judicial reviews of Class VI permits would be conducted in accordance with [***insert citation of the section of the state's rules on procedures for civil or administrative actions related to complaints on permitting actions***].

4. Permit, Permit Applications, Reporting and Manifest Forms

Provide copies of any permit, permit application, reporting and manifest forms used by the state. Because Class VI is a new well class, it is possible that the state may not have developed any forms. If the state plans to develop reporting forms for Class VI wells, provide any available drafts or outlines of the forms or a brief description of the information the state plans to request.

This is required in new primacy applications, and program revision applications must include copies of all revised forms [40 CFR 145.23(d)].

5. Compliance Tracking and Enforcement Program

Describe the state's procedures for monitoring compliance and taking enforcement actions.

This is required to be included in new primacy applications; program revision applications should provide any relevant updates if information has changed since primacy was approved [40 CFR 145.23(e)].

Sample text is provided below.

Compliance Monitoring

Compliance monitoring will, at a minimum, include on-site inspections conducted by authorized agents of [***insert name of Class VI agency***] and a review of operating and monitoring reports submitted in compliance with [***insert citation of the section of the state's Class VI rule related to reporting requirements***] to verify that the construction, completion, operation, maintenance,

and site closure of GS projects are performed according to approved plans and specifications and meet all permit and regulatory requirements.

The state's compliance monitoring program includes the following activities:

- Reviewing plans and reports (e.g., well completion reports, test results, workover reports) submitted by permit applicants or owners or operators.
- Conducting site inspections to verify or witness construction, operation and testing/maintenance procedures. Site inspections will be conducted by the agency's authorized agents.
- Investigating complaints alleging improper construction, completion, operation or maintenance of a GS project.
- Performing compliance monitoring (e.g., reviewing monitoring, operating and maintenance data) to verify compliance with permit conditions, regulations and any other conditions or stipulations.
- Conducting annual inspections and compliance follow-up inspections of GS projects.

Enforcement Procedures

Any person violating [***insert citation of the state's Class VI rule***], any condition of a Class VI permit, or any rule or order of [***insert name of Class VI agency***] is subject to enforcement action. The agency is responsible for initiating, pursuing and resolving enforcement actions.

Enforcement proceedings may result in modification, revocation or suspension of any permit issued under authority of the UIC Program.

The agency will attempt to handle all minor violations through informal means, such as correspondence between agency staff and the alleged violator. The agency's primary concern will be those violations that may have significant effects on the environment or may endanger USDWs.

If further enforcement action is required, the state may seek civil penalty up to $[***insert maximum civil penalty amount***] per day under [***insert citation of the state's enforcement authority provisions***].

6. Schedule for Issuing Class VI Permits

Provide a schedule for issuing Class VI permits within 2 years after program approval and, for other injection well classes, a schedule for issuing permits for those well classes within 5 years after program approval. If the state does not anticipate issuing any Class VI permits in the first two years but permit applications are expected in, e.g., the first 5 years, indicate this in the program description.

This is required in both new primacy applications and program revision applications [40 CFR 145.23(f)(1)].

Sample text is provided below.

The agency anticipates that, during the first two years after approval of the state Class VI Program, [***insert number of applications expected***] permit applications will be submitted, including [***insert number***] permit applications in year 1 and [***insert number***] permit applications in year 2.

The agency expects that reviewing Class VI permit applications will require [***insert anticipated permit application review timeframe, in months***] months following the date a complete permit application is submitted.

7. State Priorities for Issuing Class VI Permits

Include information regarding the state's priorities for issuing Class VI permits and the number of Class VI permits that will be issued during the first 2 years of program operation, and for the first 5 years for any other injection well classes. If the state does not anticipate issuing any Class VI permits in the first two years, indicate this in the program description.

This is required in both new primacy applications and program revision applications [40 CFR 145.23(f)(2)].

Sample text is provided below.

It is anticipated that during the first two years after approval of the state Class VI program, [***insert number***] permits will be issued by [***insert name of Class VI agency***].

8. Mechanical Integrity Testing Requirements

Describe how the state will meet the mechanical integrity testing (MIT) requirements of 40 CFR 146.89 for Class VI wells and 40 CFR 146.8 for other well classes. Describe the required testing frequency and the number of tests that will be reviewed each year.

This is required in both new primacy applications and program revision applications [40 CFR 145.23(f)(3)].

Sample text is provided below.

To evaluate the absence of significant leaks, owners or operators of Class VI wells must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes, pressure on the annulus between tubing and long-string casing, and annulus fluid volume, pursuant to [***insert citation of the section of the state's Class VI rule related to continuous monitoring***].

At least [***insert minimum external MIT frequency***], owners or operators must use an approved tracer survey or a temperature or noise log to determine the absence of significant fluid movement pursuant to [***insert citation of the section of the state's Class VI rule related to performing external MITs***].

The agency may require additional or alternative tests if the results presented by the owner or operator are not satisfactory to demonstrate mechanical integrity.

The agency expects to review the results of [***insert number***] MITs from Class VI well owners or operators each year.

9. Procedures to Notify Operators of the Requirement to Apply for and Obtain a Permit

Describe the state's procedures for notifying owners or operators of the requirement to apply for and obtain a Class VI permit, including (1) notifying owners or operators of Class I wells injecting carbon dioxide or Class V experimental technology wells that are no longer experimental that they must apply for a Class VI permit within 1 year of state program approval

in order to continue to inject carbon dioxide for GS and/or (2) identifying Class II ER wells that are approaching risk thresholds and repermitting as Class VI wells is necessary. If no such wells (i.e., Class I, Class II ER, or Class V experimental technology wells) are in the state, note this in the program description.

This is required in both new primacy applications and program revision applications [40 CFR 145.23(f)(4)].

Sample text is provided below.

Class I and Class V Wells

If there are Class I or Class V experimental technology wells in the state that inject carbon dioxide, describe the approach to identify and notify owners or operators.

The agency will review the state's UIC inventory and identify Class I wells previously permitted for GS of carbon dioxide and Class V experimental technology wells at projects that are no longer experimental but will continue to inject carbon dioxide for GS.

The agency will contact the owners or operators of these wells and inform them that they must cease injection or apply for a Class VI permit within 1 year of state program approval. Agency staff will provide the owners or operators with information about the state's Class VI regulation and about applying for a Class VI permit pursuant to [***insert citation of the section of the state's Class VI rule requiring owners or operators of non-experimental carbon dioxide injection wells to obtain a Class VI permit***]. Permitting of these wells will be conducted as described in Section 3 above.

Class II ER Wells

If there are Class II ER wells in the state that are used to inject carbon dioxide, describe the approach to identify and notify owners or operators.

The agency will evaluate information about Class II carbon dioxide-ER wells (e.g., carbon dioxide injection and production data or information related to the other factors at [***insert citation of the section of the state's Class VI rule related to factors to consider in determining when there is an increased risk to USDWs***]) and identify whether any projects are approaching risk thresholds. The agency will coordinate with [***insert name of 1425 agency***] as needed to obtain the data needed for this review.

If such increased risk is present, the agency will contact the owners or operators of these wells and inform them that they must apply for a Class VI permit. Agency staff will provide information about the state's Class VI regulation and about applying for a Class VI permit pursuant to [***insert citation of the section of the state's Class VI rule related to re-permitting/converting Class II ER wells***]. Permitting of these wells will be conducted as described in Section 3 above.

10. Injection Well Inventory

Provide a description of how the state will establish and maintain an injection well inventory.

This is required to be included in new primacy applications; program revision applications must include any relevant updates if information has changed since primacy was approved [40 CFR 145.23(f)(7)].

11. Exempted Aquifers

Describe aquifers, or portions of aquifers, that have been designated as exempted aquifers under 40 CFR 144.7(b), and provide information related to expanding the areal extent of existing aquifer exemptions for Class II ER wells transitioning to Class VI. If there are no existing Class II aquifer exemptions in the state (and therefore no expansions would be necessary), indicate this in the program description.

This is required in both new primacy applications and program revision applications [40 CFR 145.23(f)(9)].

Sample text is provided below.

Owners or operators of Class II ER wells may apply to expand the areal extent of Class II aquifer exemptions. Such requests must be submitted concurrently with Class VI permit applications, pursuant to [***insert citation of the section of the state's Class VI rule related to applications to expand the areal extent of Class II aquifer exemptions***].

If such requests are received, the agency will evaluate the application to determine that the area of the proposed expansion is sufficiently large to contain the carbon dioxide plume and pressure front and was determined in a manner that is consistent with the AoR modeling required under [***insert citation of the section of the state's Class VI rule related to AoR delineations***] and whether the request meets the criteria at 40 CFR 146.4.

Following this evaluation and a determination that the proposed expansion of the areal extent of the aquifer exemption meets the requirements at 40 CFR 144.7(d) and 146.4, the agency will forward the request to the EPA regional office. No designation of an expansion of the areal extent of a Class II ER aquifer exemption for GS injection will be final unless approved by the US EPA Administrator as a revision. Other than US EPA-approved expansions of the areal extent of existing Class II aquifer exemptions, no aquifer exemptions will be issued for Class VI injection-related activities.

12. Transboundary Notification and Documentation Procedures

Describe how the state will notify any states, tribes and territories if the AoR of a proposed Class VI well crosses jurisdictional boundaries, including the procedures for documenting these consultations.

This is required in both new primacy applications and program revision applications [40 CFR 145.23(f)(13)].

Sample text is provided below.

Due to the potentially large AoRs associated with GS projects, interstate issues may need to be taken into account. Pursuant to [***insert citation of the section of the state's Class VI rule related to notifying other jurisdictions about the project***], the state will notify authorities in any states, tribes, and territories of Class VI permit applications where the AoR crosses jurisdictional boundaries.

Permit applicants must provide a list of contacts for those states, tribes and territories identified to be within the AoR of the Class VI project pursuant to [***insert citation of the section of the state's Class VI rule related to submitting state, tribal, and territorial contact information***].

Based on this information and a review of the extent of the AoR, the state will notify appropriate staff in writing to provide information about the proposed project and invite them to provide input during the permit application review process or participate in/monitor the public participation process associated with the permit application.

The state will document all input received and the responses provided. This documentation will be made a part of the administrative record for the permit application.

13. Injection Depth Waivers

If the state plans to adopt an injection depth waiver program, describe how the program will be administered. If the state does not plan to adopt requirements for injection depth waivers, indicate this in the program description.

Sample text is provided below.

The state's regulation, at [***insert citation of the section of the state's Class VI rule related to injection depth waivers***], includes provisions for owners or operators of Class VI wells seeking to inject into non-USDWs that lie above or between USDWs to apply for and receive injection depth waivers.

Owners or operators must apply for an injection depth waiver at the time they submit their Class VI permit application. The waiver application must include all of the information at [***insert citation of the section of the state's Class VI rule related to the content of injection depth waiver applications***].

The agency will evaluate this information to ensure that USDW protection, site-specific drinking water resource issues, and the use and impact of GS technologies on all USDWs are considered and documented as part of the decision to grant a waiver. The agency will also evaluate all of the information at [***insert citation of the section of the state's Class VI rule related to information the Director must consider in evaluating injection depth waivers***].

If the agency determines, based on this review, that approval of the proposed injection depth waiver would allow injection that is protective of USDWs, the agency will:

- Consult with the Public Water System Supervision (PWSS) Programs of all states, territories and tribes having jurisdiction within the AoR of the proposed well to inform them of the pending waiver application pursuant to the requirements at [***insert citation of the section of the state's Class VI rule related to consultations on injection depth waivers***]. Any written or verbal responses to this consultation will be documented and made a part of the administrative record for the Class VI permit application.
- Notify the public that a waiver application has been submitted, pursuant to the procedures at [***insert citation of the section of the state's Class VI rule related to public notice of injection depth waivers***] and evaluate and respond to all public comments.

- Forward all relevant information, including the results of an evaluation of the information described above, documentation of consultation with the PWSS Director, and public input on the proposed waiver to the EPA Regional Administrator. The state will not issue a Class VI permit to inject into non-USDWs above or between USDWs unless the EPA Regional Administrator approves an injection depth waiver, per 40 CFR 146.95(d).

Following approval of an injection depth waiver, the agency would include additional conditions in the Class VI permit to ensure the protection of USDWs above and below the injection zone pursuant to the requirements at [***insert citation of the section of the state's Class VI rule related to additional permit conditions for wells operating under injection depth waivers***].

14. Financial Responsibility

EPA recommends that the state describe how it will implement the financial responsibility requirements of the Class VI Rule.

Sample text is provided below.

The state's regulation, at [***insert citation of the section of the state's Class VI rule related to financial responsibility***], requires owners or operators of Class VI wells to demonstrate and maintain financial resources to perform all required corrective action, plug the injection well, conduct post injection site care and site closure, and perform any needed emergency and remedial response.

Agency staff with financial expertise will review the cost estimates provided by applicants to verify that they are sufficient to cover these activities and evaluate the financial instruments the applicant proposes to use to verify that they qualify and are appropriate.