

# Alaska Class VI UIC Primacy Application

Prepared: April 9, 2026



**ALASKA OIL AND GAS  
CONSERVATION COMMISSION**

# **Alaska Class VI UIC Primacy Application**

## **Contents**

1. Letter from Governor
2. Alaska Class VI Underground Injection Control Program Description
3. Attorney General's Statement
4. Memorandum of Agreement
5. Copies of Applicable Alaska Statutes and Regulations

DRAFT

40 CFR 145.22(a)(1) – Governor’s Letter

DRAFT

## **Letter from the Governor of Alaska**

This is a placeholder for a letter from the Governor of Alaska Mike Dunleavy to the Environmental Protection Agency that will be included with the final application.

### **Letter from the Governor Description:**

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

DRAFT

40 CFR 145.22(a)(2) – Program Description

DRAFT

# STATE OF ALASKA

## ALASKA OIL AND GAS CONSERVATION COMMISSION



### Underground Injection Control Program Description 40 CFR 145.23

## Table of Contents

I. PROGRAM AUTHORITY AND SCOPE	3
II. OVERVIEW OF THE STATE UIC PROGRAM (40 CFR 145.23(a))	3
III. AOGCC ORGANIZATION AND STRUCTURE (40 CFR 145.23(b) & (b)(1))	5
IV. AOGCC STAFFING AND RESOURCES (40 CFR 145.23(b) & (b)(1))	7
V. ESTIMATED COSTS OF ESTABLISHING AND ADMINISTERING THE PROGRAM (40 CFR 145.23(b)(2))	8
VI. SOURCES AND AMOUNTS OF FUNDING (40 CFR 145.23(b)(3))	10
VII. PERMITTING, ADMINISTRATIVE, JUDICIAL PROCEDURES (40 CFR 145.23(c))	11
VIII. PERMIT DOCUMENTS (40 CFR 145.23(d))	20
IX. COMPLIANCE TRACKING AND ENFORCEMENT (40 CFR 145.23(e))	21
X. SCHEDULE FOR ISSUING PERMITS (40 CFR 145.23(f)(1) & (2))	22
XI. MECHANICAL INTEGRITY TESTING (MIT) REQUIREMENTS (40 CFR 145.23(f)(3))	22
XII. NEW PERMIT COMMUNICATION REQUIREMENTS (40 CFR 145.23(f)(4))	23
XIII. STATE UIC RULE (40 CFR 145.23(f)(5))	23
XIV. ENHANCED RECOVERY AND HYDROCARBON STORAGE COMPLIANCE PROGRAM (40 CFR 145.23(f)(6))	23
XV. STATE INJECTION WELL INVENTORY (40 CFR 145.23(f)(7))	24
XVI. USDW DESIGNATION, AQUIFER EXEMPTIONS AND INJECTION DEPTH WAIVERS (40 CFR 145.23(f)(8) & (9))	25
XVII. NOTIFYING ADJACENT GOVERNMENTS – CLASS VI (40 CFR 145.23(f)(13))	26
XVIII. APPENDIX	27

## **I. PROGRAM AUTHORITY AND SCOPE**

As mandated by the Safe Drinking Water Act (SDWA) of 1974 (as amended), the United States Environmental Protection Agency (EPA) has promulgated regulations establishing minimum requirements, technical criteria, and standards for State Underground Injection Control (UIC) programs to protect underground sources of drinking water (USDW). The SDWA charges EPA with the administration of the UIC program, including the promulgation of regulations and the authority to grant primacy to qualifying, individual states. Statutory authority for the UIC program can be found at 42 U.S.C. §300h *et seq.*

The Alaska Oil and Gas Conservation Commission (AOGCC) is submitting this program description as an element of an application to obtain primary enforcement authority (primacy) to administer the UIC Class VI program in the State of Alaska. To gain primacy for Class VI injection wells, the State of Alaska UIC program closely follows the federal UIC program and, as demonstrated in this submittal, is at least as stringent as the federal standards.

Alaska law was revised through ch. 2, SLA 23 (AS 31.05.030(h)) to direct the AOGCC to acquire primary enforcement responsibility for the control of underground injection in Class VI wells, and was further revised through ch. 23, SLA 24 to establish Alaska's carbon storage program through amendments to AS 38.05.700 - 38.05.795 (authority of the Alaska Department of Natural Resources to authorize carbon storage exploration and licensing) and to establish jurisdiction for the AOGCC to implement and oversee underground carbon storage (AS 41.06.105 - 41.06.210) The AOGCC adopted regulations through the Alaska Administrative Code (A.A.C., primarily Title 20, Chapter 25, Articles 400-1900) to implement Alaska's carbon storage program in a manner at least as stringent as federal law. State statutory authority to apply for Class VI primacy, adopt regulations, and charge fees is found in S 41.06.105, AS41.06.120, AS 41.06.125, and AS 41.06.160.

Any state that seeks primacy for the UIC program is required to submit a description of the program it proposes to administer in lieu of the federal program under state law, in accordance with 40 C.F.R. § 145.23. This program description (PD) aims to meet the delineated requirements of 40 C.F.R. § 145.23, as well as describe other necessary program details. Upon primacy, administration of the Class VI UIC program in Alaska will be implemented by AOGCC.

With the submission of this PD and the rest of Alaska's primacy application to EPA, AOGCC applies for primacy under 42 U.S.C. §300h-1 (Section 1422) for the SDWA-UIC Program, Class VI.

EPA will continue to directly implement all UIC programs, including Class VI, within Indian Country (as defined at 18 U.S.C. § 1151) within Alaska.

## **II. OVERVIEW OF THE STATE UIC PROGRAM (40 CFR 145.23(a))**

Alaska's UIC program currently has primacy only for Class II injection wells. All other UIC well classes are directly implemented by the EPA. AOGCC is the lead agency for the Alaska UIC

Program. Alaska's updated UIC program and regulations are designed to achieve Class VI primary enforcement authority and allow AOGCC to regulate and enforce Class VI injection wells within the jurisdiction of the AOGCC.

Class VI UIC wells are geologic sequestration injection wells. Under Alaska law, the term "carbon storage" is used for "geologic sequestration" but has the same scope as the federal term. Class I, III, IV, and V injection wells are required to apply and receive a Permit to Drill (PTD) from AOGCC, but the injection operations are permitted in Alaska under the direct authority of EPA, specifically Region 10.

Class VI injection wells must be permitted. Upon submittal, each permit application will be reviewed for completeness. A preliminary decision to proceed with the development of a draft permit or a notice of intent to deny is then made. For applications moving on to the draft permit phase, a public notice will be issued allowing for 30 days of public comment. The AOGCC will hold a public hearing on a completed permit application. Response to comments collected during the written comment period and the public hearing will be responded to along with the issuance of a final permit. Applications must include, but are not limited to, a technical evaluation, an area of review, a corrective action plan, a demonstration of financial responsibility, a demonstration of mechanical integrity, a contingency plan, a proposed testing and monitoring plan, a well plugging and abandonment plan, and an injection well operating plan.

The Alaska UIC Program does not apply to injection activities outside of the scope of the program, such as the underground injection of natural gas for purposes of storage, nor the underground injection of fluids or propping agents pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities, unless diesel fuels are used.

An aquifer, or portion thereof, may be proposed for exemption by AOGCC after public notice and opportunity for public hearing. AOGCC will submit the proposed aquifer exemption in writing to EPA. EPA will review aquifer exemption approval requests and may approve or deny in accordance with federal requirements. In accordance with 40 C.F.R. § 144.7(b)(3), an aquifer exemption identified under 40 C.F.R. § 146.4(b) is treated as a program revision under 40 C.F.R. § 145.32 and becomes final upon approval by EPA (20 AAC 25.440(d)). An aquifer exemption identified under 40 C.F.R. § 146.4(c) shall become final if EPA has not disapproved the designation within 45 days of submittal, unless AOGCC and EPA agree that additional information is necessary for EPA's consideration of the proposed aquifer exemption. An expansion to the areal extent of an existing Class II aquifer exemption for a Class VI well is treated as a program revision under 40 C.F.R. § 145.32 and becomes final upon approval by EPA (implemented in 20 AAC 25.442(a)).

The issuance of a UIC permit and the denial or approval of an aquifer exemption are separate regulatory actions. If the injection activity is dependent on an aquifer exemption approval by EPA, AOGCC may issue the permit, but the permit will not be effective unless and until EPA approves the aquifer exemption. Therefore, injection, well construction, and any other activities requiring authorization will not be authorized unless and until EPA approves the aquifer exemption.

Alaska currently has zero (0) active Class VI injection wells. For Class VI injection wells permitted by EPA prior to Alaska gaining Class VI primacy, AOGCC will begin administering the existing EPA Class VI UIC permits within Alaska state jurisdiction. At that time, AOGCC will modify the existing permits in a non-substantive manner for administrative purposes. Thereafter, AOGCC does not anticipate issuing many, if any, modifications or new facility permits during the first few years of the State UIC Program. However, there are a number of future opportunities related to Class VI carbon capture and sequestration that may increase the number of permits in the program.

### **III. AOGCC ORGANIZATION AND STRUCTURE (40 CFR 145.23(b) & (b)(1))**

As was mentioned above, AOGCC will administer the Class II and Class VI UIC programs in the State of Alaska's jurisdiction. AOGCC is led by three commissioners: a Public Commissioner, a Petroleum Geology Commissioner, and a Petroleum Engineering Commissioner.

The AOGCC is an independent, quasi-judicial agency of the State of Alaska. It is established under the Alaska Oil and Gas Conservation Act (AS 31). Its regulatory authority is outlined in Title 20, Chapter 25 of the Alaska Administrative Code.

The AOGCC oversees oil and gas drilling, development and production, reservoir depletion, geothermal resources, and metering and inspection operations on all lands subject to the state's police powers.

The AOGCC acts to prevent waste, protect correlative rights, improve ultimate recovery and protect underground freshwater. It administers the Underground Injection Control (UIC) program for enhanced oil recovery and underground disposal of oil field waste in Alaska. It serves as an adjudicatory forum for resolving certain oil and gas disputes between owners, including the State. The AOGCC carries forth statutory mandates consistent with the protection of health, safety and the environment. It strives for cooperation with industry, while maintaining well-defined and essential regulatory requirements.

AOGCC senior staff will carry out most of the UIC duties required upon Class VI primacy and will be supported by AOGCC Commissioners, Alaska's Attorney General's Office (AGO), and staff of the Alaska Division of Natural Resources for long term monitoring.

#### **A. Coverage of Programmatic Duties:**

AOGCC staff currently has the capacity to take on the occasional and incidental duties Class VI primacy will bring without additional dedicated full-time-equated (FTE) employees or a portion thereof to the office. AOGCC can adjust this estimate at any time through contractors or program funding revisions.

Class VI UIC application reviews, issuance, general project oversight (including site characterization, modeling, well construction, well testing, risk analysis, review of operating, testing and monitoring data, injection well closure, and potential post-closure

remediation determinations) and other appropriate duties will be conducted by existing AOGCC geologists, engineers, and technical specialists. AOGCC has in-house expertise and access to contractors with skills in the technical and policy areas relevant to evaluating Class VI applications, issuing permits, and overseeing Geological Sequestration (GS) projects throughout their life span. The AOGCC process involves a team approach to permitting by assigning applications among staff with relevant areas of expertise. The table in Section IV below identifies the sources of this expertise. As required, third-party modelers and risk analysts will be engaged under contract. The AOGCC currently retains an independent expert in cement evaluation and well integrity, who is available for use in the evaluation and analysis of Class VI operations.

Class VI UIC duties are designed to be industry funded, as detailed in Section V below, and are represented as the “Carbon Engineering Assistant”, “UIC Data Management”, the “UIC Permit Specialist/Engineer”, and the “UIC Permit Specialist/Geologist” roles in the “Class VI Annual Program Costs” table in Section V below. The “Carbon Engineering Assistant” role will be dedicated 1 FTE at a cost of \$85,000 annually. The “UIC Data Management”, “UIC Permit Specialist/Engineer”, and “UIC Permit Specialist/Geologist” roles will be dedicated 0.25 FTE at a cost of \$53,500 annually per role.

A Class VI applicant’s financial assurance demonstration will be reviewed by AOGCC’s staff. AOGCC has the ability to consult with expert staff of the Alaska Department of Revenue and to contract with consultants and experts in Class VI financial compliance.

The duties including overall UIC program administration, oversight, as well as policy matters, strategic planning, and budgeting, will be addressed by AOGCC’s management and leadership teams which are represented as the “Leadership” role in the “Class VI Annual Program Costs” table in Section V below. The UIC “Leadership” role will be dedicated 0.15 FTE at a cost of \$30,000 annually.

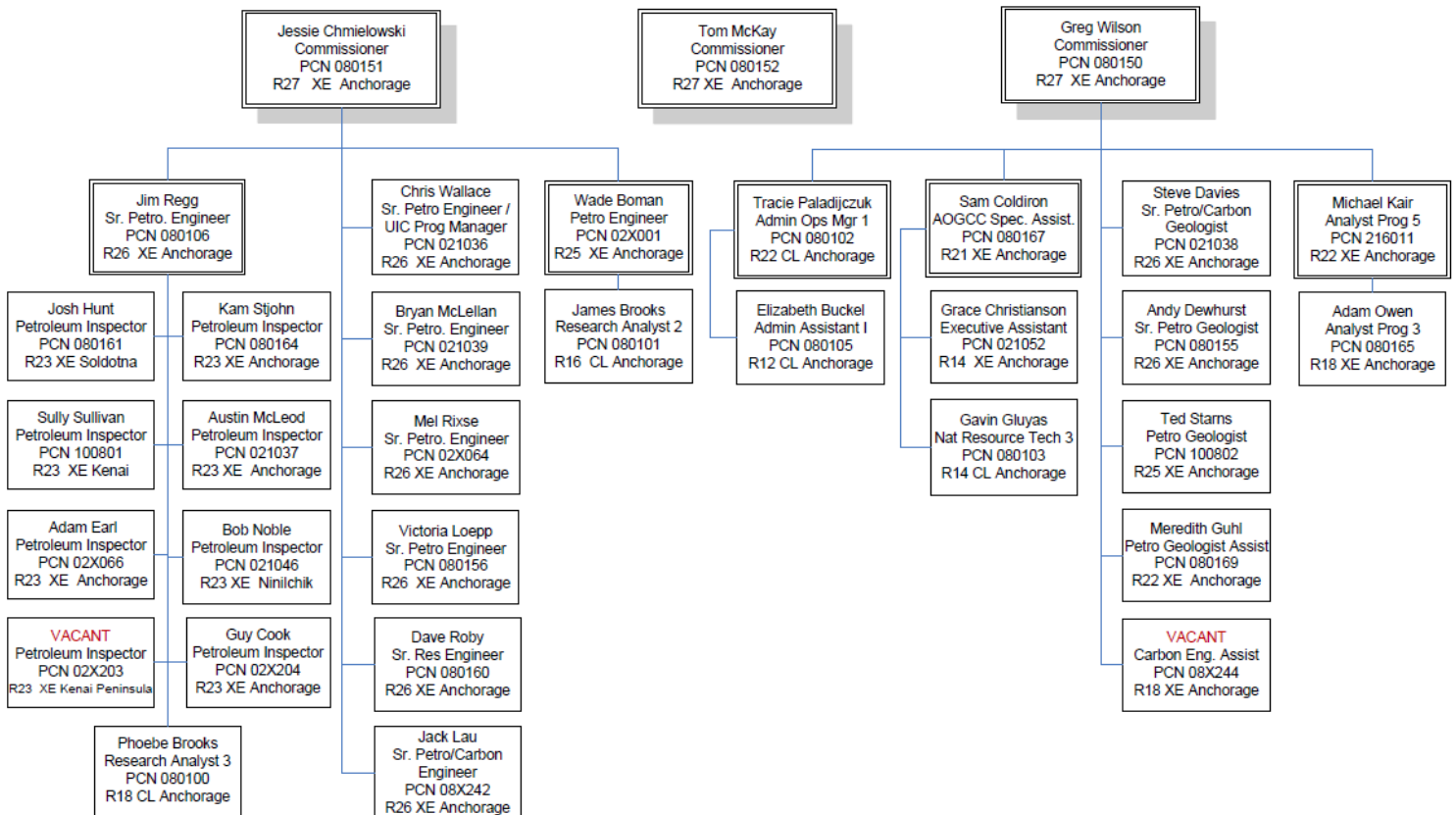
Specific regulatory issues will be addressed by the AOGCC’s Commissioners, Assistant Attorney General, and technical staff in the “Legal, Compliance Assurance & Enforcement Support” role in the “Class VI Annual Program Costs” table in Section V below. The UIC “Legal, Compliance Assurance & Enforcement Support” role will be allocated \$51,000 annually.

UIC inspections, compliance assistance, and compliance assurance will be conducted by AOGCC’s Inspections Unit, comprised of AOGCC field inspectors, Inspection Supervisor, and Research Analyst. These duties are represented as the “UIC Inspections, Compliance, Enforcement” role in the “Class VI Annual Program Costs” table in Section V below. The “UIC Inspections, Compliance, Enforcement” role will be dedicated 1.00 FTE at a cost of \$107,670 annually.

Class VI UIC enforcement will also be addressed by AOGCC’s senior staff, with assistance from the AOGCC’s Assistant Attorney General, and AOGCC Commissioners. These duties are represented as the “Legal, Compliance Assurance & Enforcement

Support” role and the “Leadership” role in the “Class VI Annual Program Costs” table in Section V below.

Department of Commerce, Community and Economic Development  
 Alaska Oil and Gas Conservation Commission  
 FY26 Organization Chart as of 1/26/26



**IV. AOGCC STAFFING AND RESOURCES (40 CFR 145.23(b) & (b)(1))**

The AOGCC’s current UIC program is limited to Class II injection wells, and it is expected to gradually grow to include Class VI injection wells. Until a Class VI project develops, AOGCC will not add any FTE for the Class VI program. The AOGCC has calculated that 3.15 FTE as detailed in Section III(A) above, along with occasional and incidental assistance from the Alaska Assistant Attorney General dedicated to the AOGCC, will be sufficient to effectively carry out the duties of adding Class VI primacy to the existing UIC program. It should be noted that when the State UIC Class VI program adds permits, the program’s revenue will increase due to its fee and revenue structure. This will allow AOGCC to dedicate more FTE to the UIC program as it grows.

Additionally, AOGCC has access to contractors if a need arises. If AOGCC determines capacity

or resource is lacking in a particular area of expertise necessary to carry out the duties of the program, appropriately qualified contractors are available for AOGCC to acquire at that time. The table below identifies the sources of expertise AOGCC plans to utilize in administering the UIC program.

<b>Expertise Area</b>	<b>In-House</b>	<b>Contractor</b>
<b>Site characterization</b> , e.g., geologists, engineers, and log analysts/experts to review site characterization data submitted during permitting and throughout the project duration.	✓	✓
<b>Modeling</b> , e.g., geologists and reservoir modelers to evaluate area of review (AoR) delineation computational models during permitting and AoR re-evaluations.	✓	✓
<b>Well construction and testing</b> , 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.	✓	✓
<b>Finance experts</b> to review financial responsibility information during permitting and annual evaluations of financial instruments <sup>1</sup> .	✓	✓
<b>Risk analysts</b> to evaluate emergency and remedial response scenario probabilities and remediation cost estimates.		✓
<b>Policy/regulatory</b> experts on the UIC Program and the Class VI Rule to evaluate compliance with Class VI Rule requirements.	✓	
<b>Enforcement/compliance</b> , e.g., staff who can initiate and pursue appropriate enforcement actions when permit or rule requirements are violated.	✓	
<b>Inspectors</b> including well engineers or log analysts/experts to inspect wells or witness construction activities, workovers, and/or mechanical integrity tests.	✓	

#### V. ESTIMATED COSTS OF ESTABLISHING AND ADMINISTERING THE PROGRAM (40 CFR 145.23(b)(2))

All costs in this section refer exclusively to the Class VI program and do not include AOGCC Class II program administration costs. In the initial years after primacy, AOGCC estimates that \$483,670.00 annually will cover the costs of running the Class VI UIC program. The program's initial sources of funding include billing for permitting and administrative services, annual fees from existing permits, billing for technical review, well installation fees, and the EPA Class VI primacy grant. As the program's size and needs change with time, revenues and allocations will be adjusted accordingly (*see* the program's fee and surcharge rules; 20 AAC 25.1290-1295).

<sup>1</sup> AOGCC will work with the Alaska Department of Revenue to review and approve financial compliance.

Annual Program Costs and staff budget allocation are represented in the Annual Program Costs table below. For a description of the AOGCC staff who will carry out the Alaska Class VI program, including the number, occupations, and general duties of the employees, please see Section III(A) above.

<b>Class VI Annual Program Costs</b>		
<b>Role</b>	<b>Position</b>	<b>Cost</b>
Administrative (Inventory, LTF, Fees, Billing)	Carbon Engineering Assistant (1.00 FTE)	\$85,000.00
UIC Data Management	Sr Petroleum Engineer/UIC Program Manager (0.25 FTE)	\$53,500.00
UIC Inspections, Compliance, Enforcement	AOGCC Petroleum Inspectors (1.0 FTE)	\$107,670.00
UIC Permit Specialist / Engineer	Sr Petroleum /Carbon Engineer (0.25 FTE)	\$53,500.00
UIC Permit Specialist / Geologist	Geologist (0.25 FTE)	\$53,500.00
Legal, Compliance Assurance & Enforcement Support	Assistant Attorney General (0.25 FTE)	\$51,000.00
Leadership	AOGCC Commissioner (0.15 FTE)	\$30,000.00
<b>Other Direct Costs</b>		
Annual Staff Training	Technical Staff	\$12,000.00
Staff Travel	Inspector	\$7,500.00
Technical Assistance	Engineering / Modelling Consultants	\$30,000.00
<b>Total Cost</b>		<b>\$483,670.00</b>

Concerning the Class VI Annual Program Costs table above, the \$12,000 “Annual Staff Training” allocation includes development and maintenance of training modules for AOGCC UIC staff training, staff time spent in training, as well as incidental staff attendance of virtual or in-person UIC-related conferences. The \$7,500 “Staff Travel” allocation covers staff transportation for inspections and conferences.

While AOGCC anticipates the Class VI UIC program to grow in the future, the initial budget and allocations reflect the program’s current size and a projection of its size in the first few years (significant growth is not expected). However, it should be noted that the fees associated with the UIC program in 20 AAC 25.1290-1295 were designed to generate funds as applications are received, allowing AOGCC to hire resources (both internally and externally) on an as-needed basis. If the need arises, AOGCC can hire from an established list of preferred professional service contractors or can hire outside of this list, should the need arise. Furthermore, AOGCC plans to

adjust the budget and staff to align to the needs of the program on an ongoing basis.

## VI. SOURCES AND AMOUNTS OF FUNDING (40 CFR 145.23(b)(3))

As was stated in the previous section, the estimated cost for establishing, administering and then maintaining the Alaska Class VI UIC program in its first two years is \$967,340 (\$483,670.00 annually). To meet these projected costs, the program will operate on a fee-for-service model. AOGCC uses the term “fee-for-service” to mean the funding for the program will be industry generated through fees assessed to applicants and permittees of the program itself. Fees include fees associated with permitting, administrative and technical review by AOGCC staff, annual fees billed for area permits, per well permitting fees, and Class VI injection fees. There is currently not a State of Alaska legislative appropriation associated with the Class VI program, and any future legislative appropriation for the Class VI program would be subject to legislative approval. Additional funding for program administration and EPA reporting etc. is to be provided through the existing EPA Class VI primacy grant and future annual EPA Class VI grants.

The projected annual revenue from the aforementioned sources are represented in the table below:

<b>Fees</b>	<b>Annual Revenue</b>
Permitting & Administrative Fees	\$72,500.00
Annual Fee for Class VI Permits	\$30,000.00
Technical Review Fees	\$142,100.00
Well Permitting Fees	\$25,200.00
Class VI Injection Fees	\$200,000.00
<b>Grant</b>	<b>--</b>
EPA Primacy Grant	\$105,000.00
<b>Total Projected Revenue</b>	<b>\$574,800.00</b>

To meet the amount of funding necessary, AOGCC projects its program and fees will collect approximately \$1,149,600 in the first two years which will comfortably cover the projected two-year cost of the program (\$967,340) and allow for a reasonable margin of error. AOGCC has been awarded the UIC Class VI EPA grant of \$1,930,000 over 5 years, ending September 30, 2029.

In the scenario where AOGCC receives zero Class VI applications, it will receive zero revenue from the Class VI regulated industry in the form of fees and surcharges. If the EPA grants end or are not sufficient to fully fund the Class VI UIC primacy program, the program would be re-evaluated and state funding, including legislative appropriations, could be considered.

Permitting and Administrative review by AOGCC staff includes tasks such as application review and management, issuing public notice, collecting public comment and facilitating public hearings, as well as AOGCC management and leadership review of draft permits. AOGCC estimates 2,600 hours of Permitting and Administration review annually in the initial years of the program.

Review will be estimated and billed by the hour and includes tasks such as groundwater and injection well modeling review, well pre-construction, construction and completion review, aquifer review, monitoring proposal review and periodic report review. AOGCC estimates 3,900 hours of Technical Review in the initial years of the program. The AOGCC will utilize a fee structure under the Alaska UIC fee rules. AOGCC estimates zero to one Class VI well installation annually in the initial years of the program. EPA Region 10 is not currently processing any Class VI permit applications.

The permitting, administrative and technical review hourly rate fee will be calculated as actual state of Alaska fully loaded employee salary and fringe benefits, and include direct and indirect costs for AOGCC. AOGCC will issue an administrative order annually under 20 AAC 25.556 detailing the Class VI application fee structure and charges estimated for the program as specified in 20 AAC 25.1040, 20 AAC 25.1280, and 20 AAC 25.1290. The 20 AAC 25.1295 required injection surcharge will be included in the final permit issued under 20 AAC 25.1170 and will be adjusted annually.

Also, AOGCC will conduct reviews of its UIC budget, revenues, costs and allocations every year for the annual order. These reviews will ensure fees associated with the program and costs necessary to administer the program are reasonably balanced. In addition, these assessments will include consideration for the burden fees place on stakeholders.

## **VII. PERMITTING, ADMINISTRATIVE, JUDICIAL PROCEDURES (40 CFR 145.23(c))**

### **A. Permitting**

All permitting requirements in 40 CFR 145.11 are represented and required in state law through the Alaska Statutes or the Alaska Administrative Code (*see* the Attorney General's Statement component of Alaska's Primacy Application for more information).

As described in 20 AAC 25.444, which implements 40 CFR 144.19, an owner or operator that is injecting carbon dioxide shall apply for and obtain a storage facility permit under 20 AAC 25.1000 – 20 AAC 25.1900 when the primary purpose of injection is long-term carbon storage or there is an increased risk to underground sources of drinking water when compared to Class II operations.

The Class VI UIC storage facility application process will be initiated through a pre-application meeting under 20 AAC 25.1040 with the applicant in order to discuss proposed injection well(s), the site and the requirements for application submittal under 20 AAC 25.400-1900.

It should be noted that owners or operators of Class VI wells must submit all required reports, submittals, and notifications under Title 20, Chapter 25, Article 9 to AOGCC, and also to EPA through an electronic format approved by AOGCC and EPA (*see* 20 AAC 25.1610). At the time of this UIC Class VI primacy application submission, the approved

electronic format for EPA submission is the Geologic Sequestration Data Tool (GSDT). AOGCC can receive submissions electronically via [aogcc.permitting@alaska.gov](mailto:aogcc.permitting@alaska.gov) or through an agreed file transfer protocol (FTP) site.

The storage facility application itself will follow Alaska's Class VI regulations and be comprised of administrative requirements and technical requirements. The administrative requirements section consists of general information gathering, such as the type of permit being applied for, the facility operator, the facility owner, the facility's land type and more (*see* 20 AAC 25.1080(a)(1)). The technical requirements of the application will consist of a determination of the area of review (AoR), a facility and well map, an AoR map, a USDW map, lithologic maps of the local and regional area and more well class specific technical requirements which can be found in 20 AAC 25.1060, 20 AAC 25.1070 and 20 AAC 25.1080.

AOGCC's UIC permitting and regulatory process will include application submittal, administrative completeness review, substantive review, issuance of the draft permit, public notice, and final permit approval.

## **B. Application Review**

The following steps will be taken when reviewing permit applications and issuing the final permit decision:

1. First, a storage operator seeking a permit for a storage facility shall request a preapplication meeting (20 AAC 25.1040).
2. In a preapplication meeting, the AOGCC staff and storage operator shall consider the prospective application, including the application fee under AS 41.06.120(c)(3), potential costs for application review identified in AS 41.06.120(c)(4), determination of storage reservoir capacity under AS 41.06.195, and determination of cost estimates for each phase of the proposed project under 20 AAC 25.1200, and may seek estimates of the cost of professional services required to prepare for and review the permit application. After the preapplication meeting, the AOGCC will prepare a phased application fee and schedule that sets out the fees the AOGCC determines under the criteria of AS 41.06.120(c)(3). This phased application fee will be finalized in cooperation with the storage operator, and the AOGCC may issue an order under 20 AAC 25.556 and 20 AAC 1040(c) that sets the phased application fee amount and schedule
3. Next, submittal of the application meeting the Storage facility permit application general requirements (20 AAC 25.1050) will occur electronically via [aogcc.permitting@alaska.gov](mailto:aogcc.permitting@alaska.gov) (prior to electronic forms) or through the FTP site established with access for the AOGCC and the applicant. Electronic submittal for Class VI wells will also occur through an EPA approved electronic format which is currently the Geologic Sequestration Data Tool (GSDT).

- a. The submittal package must also include the appropriate fee in accordance with 20 AAC 25.1290.
4. Next, an initial review of the application will be conducted in order to determine administrative completeness (20 AAC 25.1100).
5. Next, the substantive review process will determine if the proposed injection well(s) meet the requirements of the applicable rules (20 AAC 25.1000-1900).
6. If the reviewers identify any elements that may appear to be deficient with regard to an applicable requirement, a request for additional information and a list of concerns and comments relevant to the application package will be prepared (20 AAC 25.1100).
  - a. If the applicant does not sufficiently respond to the request for additional information with the proper application information specified in 20 AAC 25.1000-1900, within a reasonable amount of time, the application will be denied and a denial letter will be issued to the applicant pursuant to 20 AAC 25.1150.
  - b. An administratively incomplete application does not rise to the level of a Draft Permit under 20 AAC 25.1100.
7. When all comments, information requests, and concerns have been satisfactorily addressed by the applicant, the AOGCC will tentatively decide whether to prepare a draft permit or to deny the application (20 AAC 25.1100).
  - a. If the AOGCC decides to issue a draft permit, the applicant will be provided with the draft permit and the fact sheet and allowed reasonable time for informal comment prior to publicly noticing the draft permit and fact sheet.
  - b. (*see* 20 AAC 25.1100(b) for application denial procedure)
  - c. The AOGCC will notify in writing any affected state, tribe, or territory within the area of review identified under 20 AAC 25.1080(a)(20);(20 AAC 25.1080(b)).
8. Next, the AOGCC will give public notice that a draft permit has been prepared and allow 30 days for public comment (20 AAC 25.1150).
  - a. If a hearing on amalgamating property interests is required under AS 41.06.140, the AOGCC will conduct a hearing in accordance with 20 AAC 25.540 (20 AAC 25.1085). The applicant must provide, as part of the permit application, a list of contacts for any affected state, tribe, or territory within the area of review (20 AAC 25.1080(a)(20)).
  - b. Pursuant to 20 AAC 25.1150(c) which covers 40 CFR 124.10(c)(1)(i), (ii), and (iii) plus 40 CFR 145.11(a)(28). recipients of a copy of the public notice include:
    - i. each mineral lessee, mineral owner, and mineral right owner of record within the storage reservoir and within one-half mile of the boundaries of the storage reservoir;
    - ii. each surface owner of land overlying the storage reservoir and within one-half mile of the boundaries of the storage reservoir;

- iii. any additional persons that the AOGCC considers necessary;
  - iv. the storage operator, applicant;
  - v. the U.S. Environmental Protection Agency, Region 10, Drinking Water program;
  - vi. the U.S. Environmental Protection Agency, Underground Injection Control Program;
  - vii. the Alaska Department of Fish and Game;
  - viii. the Alaska Department of Natural Resources;
  - ix. the Alaska Historical Commission;
  - x. the Office of History and Archeology within the Alaska Department of Natural Resources;
  - xi. the Alaska Department of Environmental Conservation;
  - xii. any affected States and Indian Tribes;
  - xiii. other appropriate governmental authorities, including any unit of local government having jurisdiction over the area covered by a proposed carbon storage project;
  - xiv. U.S. Army Corps of Engineers;
  - xv. federal and state agencies not listed above with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans;
  - xvi. persons on an area notice list developed by the AOGCC that includes persons who request in writing to be on the notice list, participants in past permit actions in the area of the proposed storage facility, and by notifying the public, through publication in newspaper of general circulation, or other written publication, of the opportunity to be on the notice list for an area proposed for carbon storage activities; and
  - xvii. any other federal or state agency, or tribe that the AOGCC knows has issued or is required to issue a permit for the same storage facility or carbon storage activity;
9. Thereafter, the AOGCC will respond to comments and issue a final Class VI well permit decision (20 AAC 25.1080). After a decision to issue a permit has been made, a package including the permit, a brief summary, an updated fact sheet, and a public notice announcement will be prepared for the AOGCC approval.
- a. In the event of permit denial, a letter stating the reasons for denial will be sent to the applicant (20 AAC 25.1150). The decision to deny the permit may be appealed through the appeals process under 20 AAC 25.1150 via a public hearing subject to the requirements of AS 41.06.125.
10. The AOGCC will notify in writing any affected state, tribe, or territory within the area of review identified under 20 AAC 25.1080(a)(20) and 20 AAC 25.1080(b)).
11. An approved permit is signed by the AOGCC, assigned an issuance date, an effective date, and an expiration date per 20 AAC 25.1160, if applicable.

12. New injection operations may not commence until well construction is complete, construction requirements are met, financial responsibility has been properly demonstrated, mechanical integrity has been demonstrated, and Approval to Inject has been granted by the AOGCC (20 AAC 25.1180).

### **C. Notes on Public Notice**

1. For Class VI geologic storage facilities, public process and notice requirements are governed by 20 AAC 25.1000–1900. If required under AS 41.06.140 (amalgamating property interests), the AOGCC will conduct a hearing in accordance with 20 AAC 25.540 (20 AAC 25.1085).
2. As part of the permit application, the applicant must provide a list of contacts for any affected state, tribe, or territory within the area of review (AoR) (20 AAC 25.1080(a)(20)).
3. The AOGCC will provide written notification to any affected state, tribe, or territory within the AoR identified in the application (20 AAC 25.1080(b)).
4. Notification under 20 AAC 25.1080(b) must be consistent with applicable federal requirements incorporated by reference, including 40 C.F.R. 145.23(f)(13), as applicable to the state UIC program.

### **D. Applicable Standards – National Primary Drinking Water Regulations Maintenance**

A Class VI geologic storage facility may not allow the movement of fluids into an underground source of drinking water (USDW) if the presence of a contaminant may cause a violation of applicable drinking water standards. Compliance with applicable federal drinking water standards, including maximum contaminant levels (MCLs) established under 40 C.F.R. Part 141, are incorporated through the federal Class VI requirements through the AOGCC’s adoption of federal UIC regulations for Class VI wells under 20 AAC 25.1000–1900.

Applicants must demonstrate, through site characterization, area of review (AoR) delineation, well construction, monitoring, and corrective action plans, that injection operations will not endanger USDWs (20 AAC 25.1070; 20 AAC 25.1080).

If federal drinking water standards are revised, those standards apply as incorporated by reference through the adopted federal regulations governing the Class VI program under 20 AAC 25.1000–1900.

### **E. Administrative and Judicial Procedures**

1. Final Permit Decisions
  - a. A final permit decision by AOGCC to grant, deny, modify, condition, or revoke

- a. A Class VI storage facility permit under 20 AAC 25.1000–1900 constitutes a final action of the AOGCC.
  - b. Class VI permits are issued under the AOGCC’s authority in AS 31.05 and more specifically AS 41.06.105 - 41.06.120, and the regulations adopted in 20 AAC 25, including the specific storage facility provisions of 20 AAC 25.1000–1900.
2. Administrative Reconsideration or Hearing Before the AOGCC
- a. A person directly and adversely affected by a final permit decision may request reconsideration or a hearing before the AOGCC in accordance with the AOGCC’s adjudicatory authority under:
    - i. AS 31.05.080 (hearings and investigations), and
    - ii. AS 31.05.090 (judicial review of AOGCC decisions).
  - b. If a hearing is required by statute, it will be conducted in accordance with 20 AAC 25.540, as referenced in 20 AAC 25.1085.
  - c. AOGCC proceedings are conducted in accordance with the Alaska Administrative Procedure Act, AS 44.62, to the extent applicable.
3. Judicial Review
- a. A final decision of the AOGCC is subject to judicial review in accordance with AS 31.05.090, and The Alaska Administrative Procedure Act (AS 44.62.560 - 44.62.570).
  - b. Judicial review is taken to the Alaska Superior Court. The court reviews the administrative record developed before the AOGCC.
4. Effect of Appeal
- a. Unless otherwise ordered by the AOGCC or a court of competent jurisdiction, the filing of an administrative appeal or petition for judicial review does not automatically stay the effectiveness of a permit decision.

## **F. Data Management**

AOGCC maintains an electronic document receiving system to accept electronic documents under the proposed UIC program sufficient to meet the requirements for a reporting system under an EPA-authorized state program pursuant to 40 CFR § 3.2000. Specifically, AOGCC will utilize a comprehensive data management program, to receive electronic documents in satisfaction of requirements under the UIC program, that is able to generate all data necessary with respect to such electronic documents including an enforceable copy of record (COR). The generated data, including the COR, meets all security, recordkeeping, and certification requirements of 40 CFR § 3.2000(b) Finally, the Alaska Attorney General’s Office certifies that the State of Alaska has sufficient legal authority over enforcement of an electronic reporting system such that AOGCC’s proposed data management program for UIC complies with the requirements of 40 CFR §3.2000(c) (*see* the Attorney General’s Statement component of Alaska’s Primacy Application for more information).

AOGCC has continued its progression toward a paperless office with tools like the Risk-Based Data Management System (RBDMS), Laserfiche, and more comprehensive electronic application and approvals. AOGCC has introduced an internal database application named Form Tracker that allows AOGCC staff and commissioners greater visibility in tracking the priority and status of the 10-401 Permit to Drill applications and the 10-403 Sundry Approvals as they progress through reviews and approvals. Specific to implementation of the UIC program, the public has access to non-confidential well records and all Orders through the AOGCC's website. Included are demonstration tutorials that guide an individual through accessing records. RBDMS also has proven to be an effective tool for AOGCC UIC inspections. The system is accessible by inspectors from their laptop computers with updates provided at least weekly. The AOGCC continues to enhance a MIT Tracking System using data in RBDMS to improve its ability to verify injection wells are tested on schedule and to the proper test pressure, and to track wells requiring increased monitoring.

## **G. Step-by-Step Procedure to Permit a Class VI Well**

1. Confirm a Storage Facility Permit is Required
  - a. A storage facility permit is required before constructing or operating a Class VI well (20 AAC 25.1020(a), (b)).
  - b. No construction may begin before the permit is issued (20 AAC 25.1020(b)).
  - c. Class VI wells cannot be authorized by rule and cannot be permitted as area permits (20 AAC 25.1020(a), (f)).
  - d. Ensure injection will not allow movement of fluids into USDWs (20 AAC 25.1010(a)).
2. Demonstrate Proper Site Selection
  - a. The operator must demonstrate the site meets minimum geologic criteria:
  - b. Suitable injection zone (adequate thickness, porosity, permeability, areal extent) (20 AAC 25.1060(a)(1)).
  - c. Confining zone free of transmissive faults/fractures and capable of containment (20 AAC 25.1060(a)(2)).
  - d. Additional zones may be required for containment and monitoring (20 AAC 25.1060(b)).
3. Delineate the Area of Review (AoR) and Prepare Corrective Action Plan
  - a. Before submitting the permit:
    - i. Delineate the AoR using computational modeling (20 AAC 25.1070(a)).
    - ii. Prepare an AoR and corrective action plan (20 AAC 25.1070(b)).
    - iii. Include:
      1. Modeling method and assumptions (20 AAC 25.1070(b)(1)).
      2. Reevaluation frequency (not to exceed 5 years) (20 AAC 25.1070(b)(2)(A)).

3. Conditions triggering early reevaluation (20 AAC 25.1070(b)(2)(B)).
  4. Corrective action procedures and phasing (20 AAC 25.1070(b)(2)(D)).
- iv. Identify all wells in the AoR that penetrate the injection or confining zone (20 AAC 25.1080(a)(4)).
4. Prepare the Storage Facility Permit Application
- a. Submit required information under 20 AAC 25.1080, including:
  - b. Required Core Application Elements
  - c. Federal permit application information (40 CFR 144.31 incorporated by reference) (20 AAC 25.1080(a)(1)).
  - d. AoR map showing wells, USDWs, faults, surface features, etc. (20 AAC 25.1080(a)(2)).
  - e. Detailed geologic and hydrogeologic information (20 AAC 25.1080(a)(3)).
  - f. Well tabulation within AoR (20 AAC 25.1080(a)(4)).
  - g. USDW mapping and stratigraphic cross sections (20 AAC 25.1080(a)(5)).
  - h. Baseline geochemical data (20 AAC 25.1080(a)(6)).
  - i. Proposed operating data (rates, pressures, CO<sub>2</sub> source and composition) (20 AAC 25.1080(a)(7)).
  - j. Pre-operational formation testing program (20 AAC 25.1080(a)(8)).
  - k. Stimulation program (if applicable) (20 AAC 25.1080(a)(9)).
  - l. Well construction procedures (20 AAC 25.1080(a)(12); 20 AAC 25.1210).
  - m. Testing and monitoring plan (20 AAC 25.1080(a)(15); 20 AAC 25.1250).
  - n. Plugging plan (20 AAC 25.1080(a)(16); 20 AAC 25.1300).
  - o. Post-injection site care and site closure plan (20 AAC 25.1080(a)(17); 20 AAC 25.1310).
  - p. Emergency and remedial response plan (20 AAC 25.1080(a)(19); 20 AAC 25.1260).
  - q. List of affected states, tribes, or territories within AoR (20 AAC 25.1080(a)(20)).
  - r. The AOGCC will notify affected jurisdictions (20 AAC 25.1080(b)).
5. Demonstrate Financial Responsibility (20 AAC 25.1200)
- a. Before permit issuance, the operator must demonstrate financial responsibility sufficient to address endangerment of underground sources of drinking water and to cover the cost (20 AAC 25.1200 (b); 20 AAC 25.1080 (a)(14) of :
    - i. Corrective action (20 AAC 25.1200(b)(1); 20 AAC 25.1070).
    - ii. Plugging (20 AAC 25.1200(2); 20 AAC 25.1300).
    - iii. Post-injection site care and closure (20 AAC 25.1200(b)(3); 20 AAC 25.1310).
    - iv. Emergency and remedial response (20 AAC 25.1200(4); 20 AAC 25.1260).
  - b. Financial Requirements Include:
    - i. Detailed third-party cost estimates (20 AAC 25.1200(n)).

- ii. AOGCC approval of financial instruments (20 AAC 25.1200(f)).
  - iii. Acceptable instruments (trust fund, surety bond, letter of credit, escrow, insurance, etc.) (20 AAC 25.1200(g)).
  - iv. Ongoing annual updates and inflation adjustments (20 AAC 25.1200(o)).
  - v. Maintenance of financial responsibility until certificate of completion (20 AAC 25.1200(l); 20 AAC 25.1320).
6. AOGCC Review Prior to Construction Approval
- a. Before authorizing operation, the AOGCC will review:
    - i. Final AoR based on logging and testing data (20 AAC 25.1080(c)(1)).
    - ii. Updates to geologic data (20 AAC 25.1080(c)(2)).
    - iii. Compatibility of CO<sub>2</sub> stream with formation and well materials (20 AAC 25.1080(c)(3)).
    - iv. Formation testing results (20 AAC 25.1080(c)(4)).
    - v. Final construction procedures (20 AAC 25.1080(c)(5); 20 AAC 25.1210).
    - vi. Status of corrective action (20 AAC 25.1080(c)(6)).
    - vii. Logging and testing data (20 AAC 25.1080(c)(7); 20 AAC 25.1220).
    - viii. Demonstration of mechanical integrity (20 AAC 25.1080(c)(8); 20 AAC 25.1240).
7. Construct Well in Compliance with Class VI Standards
- a. Well must:
    - i. Prevent fluid movement into USDWs (20 AAC 25.1210(a)(1)).
    - ii. Allow testing and workover (20 AAC 25.1210(a)(2)).
    - iii. Allow continuous annulus monitoring (20 AAC 25.1210(a)(3)).
    - iv. Use casing and cement designed for life of facility (20 AAC 25.1210(b)).
8. Obtain Authorization to Inject
- a. Injection may begin only after:
    - i. AOGCC review of logging/testing results (20 AAC 25.1080(c)(7)).
    - ii. Mechanical integrity demonstration (20 AAC 25.1080(c)(8)).
    - iii. Corrective action status acceptable (20 AAC 25.1080(c)(6)).
    - iv. All required plans finalized and incorporated.
9. Ongoing Obligations After Permit Issuance
- a. During operations, the operator must:
    - i. Reevaluate AoR at least every 5 years or sooner if triggered (20 AAC 25.1070(b)(2)).
    - ii. Maintain financial responsibility (20 AAC 25.1200(l)).
    - iii. Adjust cost estimates annually and after plan modifications (20 AAC 25.1200(o), (p)).
    - iv. Notify AOGCC of bankruptcy or adverse financial conditions (20



Reporting Period	October 1 – March 30	April 1 – September 30
Final Submittal to EPA UIC Data Application	May 15	November 15

**IX. COMPLIANCE TRACKING AND ENFORCEMENT (40 CFR 145.23(e))**

**A. Compliance Monitoring**

Compliance monitoring will, at a minimum, include on-site inspections conducted by AOGCC’s Petroleum Inspectors and a review of operating and monitoring reports submitted in compliance with permit requirements and the applicable Class VI UIC rules in Title 20, Chapter 25, Article 9 Carbon Storage of the Alaska Administrative Code to verify that the construction, completion, operation, maintenance, and site closure of permitted facilities 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 AOGCC’s petroleum inspectors and will be followed by the issuance of an inspection report on the facility’s compliance status with applicable state law and the UIC program.
- Investigating complaints alleging improper construction, completion, operation or maintenance of a UIC 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 permitted facilities.

AOGCC shall submit to the EPA quarterly non-compliance reports as specified in 40 CFR § 144.8(a). Reports will be submitted in accordance with the following schedule (or as otherwise specified in AOGCC’s MOA or Class VI Award - Terms and Conditions):

- January, February, March – due May 31
- April, May, June – due August 31
- July, August, September – due November 30
- October, November, December – due February 28

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.

## **B. Enforcement Procedures**

Any person violating applicable Alaska Revised Statutes, Alaska Administrative Code, or any condition of a UIC permit, or any rule or order of AOGCC 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 AOGCC will handle minor UIC program violations in accordance with 20 AAC 25.1650. A penalty or other enforcement action under 20 AAC 25.1000 - 1900 shall be governed by the process set out in 20 AAC 25.535. Tools for handling minor violations include, correspondence between AOGCC staff and the alleged violator and issuance of a Notice of Investigation (NOI), or a Notice of Violation (NOV). 20 AAC 25.535 sets out how the AOGCC determines that a violation exists, issues notices of violation, requires compliance through orders, assesses civil penalties, and conducts hearings and appeals.

AOGCC staff use a database to electronically track all NOIs, NOVs, Compliance Orders, Enforcement Orders, and AGO referrals.

The Class VI regulations include strong protections for communities to prevent contamination of underground drinking water sources (USDWs). These regulatory protections include a variety of measures, including proper site characterization and strict construction, operating, and monitoring requirements to ensure well and formation integrity, proper plugging of wells, and long-term project management and post-injection site care to ensure leakage prevention. AOGCC will properly implement and enforce these requirements to protect communities from potential harms associated with injection wells. AOGCC will make reports of enforcement activities accessible to the public.

## **X. SCHEDULE FOR ISSUING PERMITS (40 CFR 145.23(f)(1) & (2))**

The land within the state of Alaska under state jurisdiction has a total of zero (0) existing federally issued Class VI UIC permits, and zero in processing by EPA Region 10.

The AOGCC does not anticipate issuing any new Class VI permits in the near future and therefore has not drafted a priority schedule for permit issuance.

## **XI. MECHANICAL INTEGRITY TESTING (MIT) REQUIREMENTS (40 CFR 145.23(f)(3))**

### **A. MIT Implementation Table**

Well Class	Internal MIT	External MIT
VI	Initial and continuous monitoring as described in Section B below.	Annual

## **B. MIT Implementation**

Permittees shall conduct Mechanical Integrity Testing (MIT) to demonstrate that there is no significant leak in the casing, tubing, or packer; and there is no significant fluid movement into an USDW through channels adjacent to the well bore. To evaluate the absence of significant leaks the operator will, 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. Reports of the data and other pertinent information must be submitted to AOGCC in accordance with the regulations and the authorizing permit. UIC Permit conditions may require additional internal and/or external MITs if routine well monitoring indicates significant fluid movement within the well annulus or into the surrounding formation. As per 20 AAC 25.1240(d), AOGCC may require the operator to run a casing inspection log (to determine the presence or absence of corrosion) at a frequency specified in the testing and monitoring plan at 20 AAC 25.1250.

Class VI MIT includes annual external MIT. Tracer surveys, temperature or noise logs will also be performed annually for Class VI wells to determine the absence of significant fluid movement.

Acceptable methods for determining mechanical integrity are specified in 20 AAC 25.1240 or as specified in the UIC Permit. The Permittee must provide at least 24 hours advance notice of the intent to conduct a MIT, and it is the intent of AOGCC to routinely witness testing. AOGCC will continue to conduct routine inspections that include witnessing well control testing, workover testing, well abandonment, review of reports (well completion and operations), investigating complaints, and observing MIT.

## **XII. NEW PERMIT COMMUNICATION REQUIREMENTS (40 CFR 145.23(f)(4))**

AOGCC is not aware of any Class VI UIC facilities located within the state of Alaska under EPA or state jurisdiction, therefore there will not be any transfer of Class VI permits in Alaska.

## **XIII. STATE UIC RULE (40 CFR 145.23(f)(5))**

AOGCC adopted regulations to implement the UIC program for Class VI, with most Class VI specific requirements in 20 AAC 25.435; 20 AAC 25.442; 20 AAC 25.444; and 20 AAC 25.1000 - 1900. These regulations will be effective April 18, 2026.

## **XIV. ENHANCED RECOVERY AND HYDROCARBON STORAGE COMPLIANCE PROGRAM (40 CFR 145.23(f)(6))**

AOGCC currently has primacy over UIC Class II wells permitted in Alaska's state jurisdiction. Class II-R (enhanced recovery) wells are utilized for the injection of fluids (including brine, freshwater, steam, polymers, and carbon dioxide) into petroleum bearing formations for the purpose of enhanced recovery operations.

Class II-D (disposal or saltwater disposal) wells are utilized for the disposal of fluids associated with the production of oil and natural gas and are authorized by AOGCC under 20 AAC 25.252. Class II-H (hydrocarbon storage) wells store hydrocarbons that are liquid at standard temperature and pressure. There are currently no UIC Class II hydrocarbon storage wells in the state of Alaska. Natural gas storage wells do not fall under the jurisdiction of the UIC Program and are regulated and authorized by AOGCC under 20 AAC 25.252.

All Class II wells shall be constructed per the requirements specified in 20 AAC 25.030 and 20 AAC 25.412. The operator is required to monitor and report the injection pressure, flow rate, and cumulative volume monthly and annually for enhanced recovery and hydrocarbon storage wells in accordance with 20 AAC 25.430 and 20 AAC 25.432.

As required in 20 AAC 25.025, the operator shall assume full financial responsibility to close, plug, and abandon all enhanced recovery and hydrocarbon storage wells. The permittee shall demonstrate financial assurance to AOGCC by the submission of a surety bond, or other financial assurances, such as a financial statement.

AOGCC is not proposing to authorize by rule any existing enhanced recovery or hydrocarbon storage wells.

**XV. STATE INJECTION WELL INVENTORY (40 CFR 145.23(f)(7))**

The table below represents the number of UIC facilities, the injection well classes, and the number of issued permits for UIC wells under AOGCC or EPA jurisdiction. The numbers are current as of March 25, 2026. For context, AOGCC manages an additional 4,011 active wells that are not within the UIC program as they are primarily oil and/or gas producing wells.

AOGCC has an electronic Risk Based Data Management System (RBDMS) database that was established in order to manage permitted injection wells and inventory wells that are authorized for injection. Please reference Section VII – Subsection H – Data Management, above.

<b>Injection Well Class (Authority)</b>	<b>UIC Regulated Facilities</b>	<b>Number of Issued Permits</b>	<b>Number of Wells</b>
I (EPA)	21	21	23
II-R (Enhanced Recovery) (AOGCC)	46	46	1638
II-D (disposal) (AOGCC)	47	47	50
II-H (hydrocarbon storage) (AOGCC)	0	0	0
VI	0	0	0

## **XVI. USDW DESIGNATION, AQUIFER EXEMPTIONS AND INJECTION DEPTH WAIVERS (40 CFR 145.23(f)(8) & (9))**

### **A. USDW Designations**

AOGCC will make USDW determinations for each UIC application. Applications will require a written narrative describing the hydrogeology of each aquifer such as the lithology and the geologic structure (joints, faults, folds, strike, and dip). The description should include the hydrology of the aquifer such as hydraulic conductivity, saturated thickness, observed yields, and groundwater flow directions. A generalized discussion of hydrocarbon, mineral or geothermal potential in the state should also be included in the narrative. Groundwater quality of each aquifer including tabulation of average range of major ions, Total Dissolved Solids (TDS), and trace metal concentrations, and all supporting materials (including references) should be provided in the description.

### **B. Aquifer Exemptions**

Please reference rules 20 AAC 25.435, 20 AAC 25.440, and 20 AAC 25.442 for aquifer exemptions (AEs).

As described in 20 AAC 25.435, other than an approved aquifer exemption expansion that meets the criteria under 20 AAC 25.442 (d), new aquifer exemptions shall not be issued for a Class VI well.

When a request for an AE is made by an applicant or a permittee, AOGCC will consult with EPA as soon as is reasonably possible. These early discussions will serve to identify potential technical or legal issues that may require additional consideration prior to submitting an AOGCC-proposed AE to EPA. In addition to procedures for AEs in 20 AAC 25.435, 20 AAC 25.440, and 20 AAC 25.442, AOGCC will use the Aquifer Exemption Checklist in compiling necessary information to determine the eligibility of an aquifer for exemption (*see* Appendix A-3).

As described in 20 AAC 25.435 and 20 AAC 25.990, all USDWs which have not been exempted, are protected as such. Issuances, modifications, or revocations and reissuances of permits that necessitate new AEs or enlargements of a previously approved AE proposed by AOGCC are not final until approved by EPA, except those that meet the criteria in 20 AAC 25.440, which become final if EPA has not disapproved the proposed designation within 45 days. The state will utilize an AE checklist in Appendix A-3, as a guide for reviewing AE requests and will submit the checklist for EPA's review when seeking approval of the proposed AE. For approval of an AE, the EPA must determine that the state has demonstrated the aquifer or the portion of the aquifer identified as exempt does not serve as a source of drinking water per the regulatory criteria in 40 CFR 146.4. EPA shall document all reasons and factors considered in a Statement of Basis or decision memorandum regarding the final AE decision. The Statement of Basis should include explanations of the factual, technical, and legal bases for the determination.

As described in 20 AAC 25.442, which implements 40 CFR §144.7(d), an owner or operator of Class II enhanced recovery operation under 20 AAC 25.402 may request that the AOGCC approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil or enhanced gas recovery well under 20 AAC 25.440 for the exclusive purpose of Class VI well injection for carbon storage. A request under this section will be treated as a substantial revision to the approved state underground injection control program under 40 C.F.R. 145.32 and will not be final until approved by the United States Environmental Protection Agency.

The issuance of a UIC permit and the approval or denial of an AE are separate regulatory actions. If the operation of a UIC facility in a UIC permit is dependent on EPA's approval of an AE or AE expansion, AOGCC may issue the permit under the condition that injection is not authorized until the AE is approved by EPA.

### **C. EPA Approved Aquifer Exemptions**

EPA has issued determinations of no USDW's in Alaska for Class I, as well as issued Class II AE during Class II primacy rule codification at:

<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-147/subpart-C/section-147.102>

AOGCC has issued AE for Class II after primacy, and also issued AE for gas storage operations (not UIC), AOGCC issued AE's are available on AOGCC's website at:

<http://aogweb.state.ak.us/WebLinkSearch>

EPA has an aquifer exemptions mapping application available at:

<https://www.epa.gov/uic/aquifer-exemptions-mapthat>

### **D. Class VI Injection Depth Waivers**

Class VI Carbon Sequestration wells are typically required to inject below the lowermost USDW. 20 AAC 25.1270 allows an applicant to request a waiver of the injection depth requirement upon concurrence from EPA. The issuance of a Class VI UIC permit and the written concurrence or non-concurrence of an injection depth waiver (IDW) are separate regulatory actions. If the operation of a Class VI UIC facility in a UIC permit is dependent on EPA's written concurrence with a proposed IDW, AOGCC may issue the permit under the condition that injection is not authorized until written concurrence has been made by EPA.

## **XVII. NOTIFYING ADJACENT GOVERNMENTS – CLASS VI (40 CFR 145.23(f)(13))**

After an application for a Class VI well is submitted to AOGCC and EPA via the Geologic Sequestration Data Tool (GSDT) and is deemed administratively complete per 20 AAC 25.1100,

AOGCC staff will begin the substantive review of the application. If AOGCC staff determine during the substantive review that the area of review (AoR) crosses State, Tribal, or International boundaries e.g. Canada, resulting in the need for trans-boundary coordination related to an injection operation, AOGCC will notify in writing an appropriate representative of the affected entity. AOGCC's authority, as stated at AS 41.06.110, applies to all land in the state lawfully subject to its police powers, including land of the United States and land subject to the jurisdiction of the United States. Alaska lands generally include all land between the mean high tide line and three miles offshore of the mean low tideline. EPA will continue to directly implement all UIC programs, including Class VI, within Indian Country (as defined at 18 U.S.C. § 1151) within Alaska.

## **XVIII. APPENDIX**

### **A-1: Application Forms**

- Alaska UIC Class VI Permit Application Template
- 10-401 Class VI Permit to Drill
- 10-403 Class VI Sundry Application
- 10-404 Class VI Sundry Report
- 10-407 Class VI Completion Report
- 10-426 MIT Form

### **A-2: Permit Template**

- Alaska UIC Class VI Permit Template

### **A-3: Aquifer Exemption Checklist**

### **A-4 EPA GST Templates**

- Area of Review and Corrective Action Plan
- Class VI Permit Application Narrative
- Construction Details
- Emergency and Remedial Response Plan
- Financial Assurance Demonstration
- Post-Injection Site Care and Site Closure Plan
- Injection Well Plugging Plan
- Class VI Pre-Operation Narrative
- Pre-Operational Testing Program
- Quality Assurance and Surveillance Plan
- Stimulation Program
- Operating and Reporting Conditions
- Testing and Monitoring Plan

# **Program Description Appendices**

DRAFT

# Appendix A-1 – Application Forms

DRAFT

# Application Form Class VI

DRAFT

**STATE OF ALASKA**  
**UNDERGROUND INJECTION CONTROL PROGRAM**  
**CLASS VI INJECTION WELL PERMIT APPLICATION**

DRAFT

Last Revised: 2026

## TABLE OF CONTENTS

General Instructions	5
Procedural Information	6
Class VI Injection Well Permit Application	8
Alaska UIC Class VI Permit Application Outline	11
Part A    Determination of Area of Review (AOR)	11
Part B    Permit Application Maps	12
Part C    Table of Artificial Penetration Data	17
Part D    Corrective Action Plan	17
Part E    Formation Testing Program	17
Part F    Well Stimulation Program	17
Part G    Injection Well Construction Plan	18
Part H    Injection Well Construction Details	18
Part I    Injection Well Operation Plan and Procedures	18
Part J    Monitoring, Recording, and Reporting Plan	18
Part K    Emergency and Remedial Response Plan	19
Part L    Plugging and Abandonment Plan	20
Part M    Financial Responsibility	20
Part N    Site Care and Closure Plan	21
Part O    Injection Depth Waiver	21
Part P    Aquifer Exemption	24

## GENERAL INSTRUCTIONS

The Alaska Underground Injection Control (UIC) Alaska Administrative Code (A.A.C. Title 20 Chapter 25 Article 9) regulate the injection of carbon dioxide for geologic storage. The following instructions outline the procedures, documents, and information needed for a Class VI injection well permit application.

Alaska Oil and Gas Conservation Commission (AOGCC) recommends that applicants consult EPA's Class VI permit application templates at <https://www.epa.gov/uic/class-vi-permit-application-templates> for recommendations and considerations on how to develop the various components of the application. Current EPA provided Application Narrative templates are:

- Class VI Permit Application Narrative
- Class VI Pre-Operation Narrative

Current EPA provided Application Attachment templates are:

- Summary of Requirements
- Area Of Review and Corrective Action Plan
- Testing and Monitoring Plan
- Quality Assurance and Surveillance Plan (QSAP)
- Plugging Plan
- Post-injection Site Care (PISC) and Site Closure Plan
- Emergency and Remedial Response Plan
- Construction Details
- Pre-operational Testing Program
- Financial Assurance Demonstration
- Stimulation Program

The applicant shall submit an original Class VI Injection Well Permit Application (this form), and the EPA provided templates (as above) and, as applicable, a Permit to Drill (Form 10-401) or Application for Sundry Approvals (Form 10-403). AOGCC forms are available at <https://www.commerce.alaska.gov/web/aogcc/Forms>

All documents shall be submitted electronically through AOGCC's permitting email at [aogcc.permitting@alaska.gov](mailto:aogcc.permitting@alaska.gov) and through EPA's established Geologic Sequestration Data Tool (GSDT) at <https://gsdt.pnnl.gov> .

If the required reports cannot be submitted, or require further documentation that cannot be submitted on the GSDT portal, then submit items to [aogcc.permitting@alaska.gov](mailto:aogcc.permitting@alaska.gov).

Telephone inquiries: (907) 279-1433

Email inquiries: [aogcc.permitting@alaska.gov](mailto:aogcc.permitting@alaska.gov)

1. Confidential Business Information (CBI): The information provided in the permit application must be of sufficient detail to allow AOGCC to make informed decisions in setting permit conditions. However, if the submitted documents, or portions thereof, are considered confidential, the applicant must follow appropriate procedures in requesting CBI status for those documents, or portions thereof, as detailed in the Alaska Public Records Act, AS 40.25.100 – AS 40.25.295 and regulation 20 AAC 25.1600.

According to the Law, any person who provides to a governmental entity a record that the person believes should be protected as business confidential shall provide with the record a written claim of business confidentiality and a concise statement of reasons supporting the claim of business confidentiality. When the records in question relate to a program for which the State has been delegated primacy, as is the case for the UIC Program, the standards of the Freedom of Information Act, 5 U.S.C. Section 552 (FOIA) shall apply. Furthermore, the regulation of the U.S. Environmental Protection Agency interpreting FOIA as it appears at 40 CFR Part 2 (1992 version) shall also apply. Since permit applications are published during the public comment period, the applicant should provide an approved redacted copy of the permit application and the accompanying technical report.

2. Signature on Application: The person who signs the application form will often be the applicant; when another person signs on behalf of the applicant, his/her title or relationship to the applicant should be shown in the space provided. In all cases, the person signing the form should be authorized to do so by the applicant. An application submitted by a corporation must be signed by a responsible corporate officer or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the activity described in the form originates. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a municipal, state, federal or other public facility, the application must be signed by either a principal executive officer, ranking elected official or other duly authorized employee. The AOGCC shall require a person signing an application on behalf of an applicant to provide proof of authorization (20 AAC 25.1030; 40 CFR Part 144.32).
3. An application will not be processed until all information required to properly review the application has been obtained. When an application is severely lacking in detail or the applicant fails to submit additionally requested information in a timely manner, the application may be returned.

## **PROCEDURAL INFORMATION**

The staff will review the application for completeness. During the completeness review, the applicant may be contacted for clarification or additional information. When all pertinent information is present, a notice that an application has been received may be given to other state agencies and local governmental entities interested in water quality control and industrial waste management. A preliminary draft permit will be prepared by the AOGCC and transmitted to the applicant for review. Comments from the applicant may result in changes to the draft permit, after concurrence by the AOGCC. The draft permit will be subjected to a 30-day public comment period. A public hearing may be requested. In either case, a notice will be provided to inform the public that a draft permit has been prepared.

Requirements for the public notice include:

1. That a public notice be published for each draft permit, major permit modification, or permit renewal that has been prepared. The notice will appear within each county where the proposed facility or discharge is located and each county affected by the discharge.
2. The AOGCC will mail notice of the application to affected persons and certain governmental entities.

A public hearing will be scheduled regarding an application when requested by the AOGCC, the applicant, or any affected person within thirty (30) days following newspaper publication.

AOGCC may act upon a permit application, a draft permit, a major permit modification, or renewal of a permit without holding a public hearing when:

1. Adequate public notice and comment period has been provided, including:
  - (a) notice of the application has been mailed to persons possibly affected by the proposed permit;
  - (b) notice has been published at least once in a newspaper, regularly published, or circulated within each county where the proposed facility or discharge is located and, in each county, affected by the discharge; and
2. Within thirty (30) days following publication of the AOGCC's notice the AOGCC, the applicant, or an affected person has not requested a public hearing; or
3. An application to amend a permit resulting in an improvement of the quality of the fluid authorized to be injected and if the applicant does not seek to increase significantly the quantity of fluid to be injected or to change materially the pattern or place of injection.

After resolution of any public comment the AOGCC shall issue or deny the draft permit, major permit modification, or permit renewal. Within thirty (30) days of issuance, a copy of the permit or permit denial will be mailed to the applicant.

**ALASKA OIL AND GAS CONSERVATION COMMISSION**  
**Underground Injection Control (UIC) Program**  
**CLASS VI INJECTION WELL PERMIT APPLICATION**

(Reference to 20 AAC 25 in parentheses indicates sections of Alaska's Administrative Code and Code of Federal Regulations, respectively, requiring information.)

1. Type of Permit Application (check one)

- Initial Application (new facility)
  - Initial Application (conversion from other well type)
  - Permit Renewal, Original Permit No. \_\_\_\_\_
- Date Injection Commenced \_\_\_\_\_
- Permit Modification, Original Permit No. \_\_\_\_\_
- Date Injection Commenced \_\_\_\_\_
  
- Application to Convert a Well to Class VI, Original Permit No. \_\_\_\_\_

2. Type of Permit (check one)

- Individual (Single) Well Permit

3. Facility Operator (Applicant must be the operator if owner/operator are different) (20 AAC 25.1030(b) and 40 CFR 144.31(b))

Name: \_\_\_\_\_  
(Individual, Corporation or Other Legal Entity)

Address: \_\_\_\_\_  
(Permanent Mailing Address)

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

4. Facility Owner

(20 AAC 25.1080(a)(1) and 40 CFR 144.31(e)(4))

Name: \_\_\_\_\_  
(Individual, Corporation or Other Legal Entity)

Address: \_\_\_\_\_  
(Permanent Mailing Address)

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

5. Facility ownership status: Federal State Private Public  
Other (20 AAC 25.1080(a)(1) and 40 CFR 144.31(e)(4))
6. List those persons or firms authorized to act for the applicant during the processing of the permit application. Include a complete mailing address and telephone number:
7. List all activities conducted at this facility that require an environmental permit under federal, state, or local statutes, rules, or ordinances (e.g., NPDES, NESHAPS, AZPDES, Aquifer Protection Permit, etc.).  
(20 AAC 25.1080(a)(1) and 40 CFR 144.31(e)(1))
8. List all environmental permits or construction approvals received or applied for relevant to this facility or this location under federal, state, or local statutes, rules, or ordinances.  
(20 AAC 25.1080(a)(1) and 40 CFR 144.31(e)(6))
9. Provide a brief description of the nature of the business at the facility including generation of the fluid to be injected (include appropriate North American Industry Classification System (NAICS) Codes).  
(20 AAC 25.1080(a)(1) and 40 CFR 144.31(e)(3) and (8))
10. Location of Proposed Class VI Injection Well Operation: (20 AAC 25.1080(a)(1) and (40 CFR 144.31(e)(2))

Facility name: \_\_\_\_\_

Facility mailing address: \_\_\_\_\_

Facility location description: \_\_\_\_\_

Street address: \_\_\_\_\_

City: \_\_\_\_\_

County: \_\_\_\_\_ Lease or Field Project Name: \_\_\_\_\_

Well Name: \_\_\_\_\_ API Number: \_\_\_\_\_

No. of Wells\* : \_\_\_\_\_

For each well provide the following:

Township; Range; Section; and 1/4, 1/4 Section: \_\_\_\_\_

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

\* Location(s) of injection well(s) should be identified on all maps included in this application.

11. Are the proposed injection well(s) located on Indian land?  Yes  No  
(20 AAC 25.1080(a)(1) and 40 CFR 144.31(e)(5))

12. A list of contacts, submitted to the AOGCC, that identifies any state, tribe, or territory within the area of review of the proposed storage facility. (20 AAC 25.1080(a)(20) and 40 CFR 145.23)

13. Certification of information submitted on the application form.  
(20 AAC 25.1030(d) and 40 CFR 144.32)

\_\_\_\_\_  
(Name of Company Official: Type or Print)

\_\_\_\_\_  
Legibly) (Title)

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 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.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## CLASS VI INJECTION WELL PERMIT APPLICATION OUTLINE

The Class VI injection well permit application must contain all parts detailed in the outline below. The term "AOGCC" in the outline below refers to the AOGCC or an appointed representative, i.e. the UIC staff reviewing the permit application. The UIC staff, upon demonstrating justifications, may make adjustments in the requirements set forth in this Outline below. References in parentheses refer to sections in the Alaska Administrative Code (20 AAC 25) and the Code of Federal Regulations (40 CFR) that apply to the associated data requirements. AOGCC recommends that applicants consult EPA's Class VI permit application templates at <https://www.epa.gov/uic/class-vi-permit-application-templates> for recommendations and considerations on how to develop the various components of the application.

***Note: The required plans, programs, and attachments below must be approved by the AOGCC. Once approved, they may be included in the permit as an enforceable attachment.***

### **Part A – Determination of Area of Review (AOR)**

Submit details of the method and the calculations used to determine the area of review. Refer to 20 AAC 25.1070 for the acceptable method for determining the area of review for Class VI wells. A radius area of review is determined by 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.

The storage facility operator must prepare, maintain, and comply with a plan to reevaluate the area of review periodically on a fixed frequency (not to exceed five years) that meets the requirements of this section and is acceptable to the AOGCC. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The AoR and Corrective Action Plan should describe:

- (i) Computational modeling approach, including inputs (e.g., site geology and hydrology, porosity and permeability and other rock properties, operational information, fracture pressure and fracture gradient); model domain; constitutive relationships; and initial and boundary conditions.
- (ii) Computational modeling results (i.e., predictions of system behavior, model calibration and validation).
- (iii) The delineated AoR and critical pressure calculations.
- (iv) The AoR reevaluation cycle and triggers for AoR reevaluations prior to the next scheduled reevaluation.

The AoR and Corrective Action Plan should also include/embed:

- (i) The tabulation of data on wells within the AoR (part C); and
- (ii) A Corrective Action Plan (part D); the Plan should also include a plan for site access and a corrective action schedule.

(20 AAC 25.1070 and 40 CFR 146.84)

## Part B - Permit Application Information

### Regional Geology, Hydrogeology, and Local Structural Geology

AOGCC recommends that the maps and cross sections required by 20 AAC 25.1070 and 25.1080 be accompanied by a brief narrative describing the regional geology and hydrogeology (e.g., including stratigraphy, structure, and tectonic history) near the proposed injection site, as well as local structural geology. Recommended considerations include:

- (i) What are characteristics of the injection and confining zones (names, lithology, depth, etc.)?
  - How consistent are these characteristics regionally?
- (ii) What is the general geologic history of the region and the project site?
- (iii) What are the major geologic features (e.g., faults, synclines/anticlines, etc.) near the proposed injection site?
  - How does the proposed project site fit into the regional geologic setting?
- (iv) Associated figures may include:
  - maps, cross sections, and stratigraphic columns showing regional geologic features and characteristics.

(20 AAC 25.1080)

### Maps and Cross Sections of the AoR

AOGCC recommends that the maps and cross sections required by 20 AAC 25.1080(a)(3)(A) be accompanied by a brief narrative description interpreting the figures and providing an overview of key features important to the project.

Recommended considerations include:

- (i) What is the spatial relationship between the proposed project site and regional geologic features such as faults or the lowermost USDW? What is the relationship between the proposed injection formation and other site-specific geologic characteristics?
- (ii) Is there any evidence of regional formation pinch-out? Is the proposed storage site influenced by a structural trap (e.g., faults or a dome)?
- (iii) What is the lateral extent of the proposed injection and confining formations? Are they continuous throughout the proposed site? How was this determined?
- (iv) Are there any secondary confining zones between the proposed injection formation and the lowermost USDW?
- (v) Associated figures may include:
  - Map identifying the location of all wells, subsurface sites, surface water, and other features listed in 20 AAC 25.1080(a)(2) that are within the AoR.
  - Maps and cross section with information including lithology, the sequence of geologic units (including the proposed injection formations, confining units, and USDWs), approximate formation thicknesses, lateral extent of units, correlation of units in the vicinity of the proposed project site.

(20 AAC 25.1080(a)(3)(A))

### Faults and Fractures

AOGCC recommends the following considerations:

- (i) Are there known or suspected faults and/or fractures within the AoR? Do these features transect the injection zone?

- (ii) What information was used to determine that faults and fractures do not pose a threat to containment? How was this determination made?
- (iii) How stable are faults? What is the sealing capacity of faults/fractures? What methods were used to determine the stability and sealing capacity?
- (iv) Is there evidence that faults and/or fractures in the injection zone may provide conduits for preferential fluid flow?
- (v) What uncertainties are there in fault and fracture characterization data? How might these uncertainties be addressed with pre-operational testing?
- (vi) Associated figures may include:
  - Map showing the location, orientation, and properties of all known or suspected faults and fractures that may transect the confining zone(s) in the AoR.
  - Map identifying major faults and fractures in the injection zone, with information on the connectivity and extent of these features.
  - Results of geophysical survey data used to delineate faults and characterize their geometry.
  - Other plots or figures to support a determination of fault stability and potential for reactivation.

(20 AAC 25.1080(a)(3)(B) and 40 CFR 146.82(a)(3)(ii))

### **Injection and Confining Zone Details**

AOGCC recommends the following considerations:

- (i) What is the depth, areal extent, and thickness of the injection and confining zones? What methods were used to determine this?
- (ii) How variable is the thickness of the injection and confining zones within the AoR? How might this affect carbon dioxide storage and confinement?
- (iii) How many samples were used to determine injection and confining zone properties? How is this sufficient to characterize formation mineralogy? To characterize porosity and permeability?
- (iv) What is the mineralogy and petrology of the injection and confining zones?
- (v) Are any geochemical reactions more likely given the mineralogical makeup of either the injection or confining zone? How might these geochemical reactions affect carbon dioxide storage and containment? Note that this information may overlap with the discussion of site geochemistry. Please include cross-references as applicable.
- (vi) Is the mineralogy of the injection and confining zones compatible with the proposed carbon dioxide stream?
- (vii) What is the average permeability and porosity of the injection and confining zones? What is the spatial distribution of porosity and permeability values within the injection and confining zones?
- (viii) What data were used to determine permeability and porosity?
- (ix) What is the estimated storage capacity and injectivity of the injection zone? What is the integrity of the confining zone?
- (x) What is the capillary pressure of the confining zone? How was this determined? Does this significantly affect the ability of carbon dioxide to penetrate the confining zone?
- (xi) What indirect geophysical methods were employed to determine the extent, depth, thickness, and lithology of the injection and confining zones? How well did these results compare to other characterization methods (e.g., core analysis, wireline logs, etc.)?

- (xii) What additional information may be required to adequately characterize the injection and confining zones? Will this information be collected during pre-operational testing?
  - (xiii) What sources of uncertainty are there? How will these be addressed?
  - (xiv) Associated figures may include:
    - Isopach and isochore maps showing stratigraphic and vertical thickness.
    - Well log data (if available).
    - Geophysical survey results.
    - Maps showing locations and depths of samples collected (if any).
    - Maps and/or cross sections showing the distribution of porosity and permeability within the confining and injection zones. Note: Similar maps and cross sections may need to be included with the AoR and Corrective Action Plan. Please include cross-references as applicable.
    - Tabular results of permeability and porosity data (from the laboratory) or the results of field measurements and estimations of permeability and porosity distribution.
- (20 AAC 25.1080(a)(3)(C) and 40 CFR 146.82(a)(3)(iii))

### **Geomechanical and Petrophysical Information**

AOGCC recommends the following considerations:

- (i) What methods were used to determine the geomechanical and petrophysical characteristics of the confining zone? How many samples were collected? From what depths?
  - (ii) Where any fractures identified through geomechanical tests? Please cross-reference the faults and fractures section as applicable.
  - (iii) What is the average ductility of the confining zone? How consistent is this throughout the confining zone?
  - (iv) What is the average rock strength of the confining zone? How consistent is this?
  - (v) What is the in situ stress field of the confining zone? Is this consistent with the proposed injection pressures and fault stability analyses?
  - (vi) What is the average pore pressure of the confining zone (if available at this stage of the project)?
  - (vii) Were there any anomalies or uncertainties in the data? How will these be addressed during pre-operational testing?
  - (viii) How consistent are the results of different tests? What are the causes of any inconsistencies? Can these be addressed with additional testing?
  - (ix) Associated figures may include:
    - Results in a tabular and/or graphical form.
- (20 AAC 25.1080(a)(3)(D) and 40 CFR 146.82(a)(3)(iv))

### **Seismic History**

Please include a brief narrative description of the seismic history of the project site, as required by 20 AAC 25.1080(a)(3)(E). This description should include the presence and depth of all seismic sources, and a demonstration that seismic activity does not pose a threat to carbon dioxide containment. Note that as applicable, the information included in this subsection should be consistent with the Testing and Monitoring Plan (20 AAC 25.1250) and the Emergency and Remedial Response Plan (20 AAC 25.1260). AOGCC recommends the following considerations:

- (i) What sources of data were used to characterize the seismic history of the site? Be sure to cite references as applicable.

- (ii) What seismic sources exist within the AoR and regionally? How active are these sources?
- (iii) Was a seismic risk threshold used or established to determine site-specific earthquake risk? What was the source of this threshold, or how was it calculated?
- (iv) If data suggests a substantial risk of seismic activity, what is the risk to subsurface containment? What other geologic data (e.g., geomechanical data, fault stability analyses, etc.) help demonstrate that seismic activity does not pose a risk to containment?
- (v) Associated figures may include:
  - Tabular presentation of seismic sources and depths.
  - Tabular presentation of historical seismic events and relevant details.
  - Map showing the location and depth of known seismic sources within and near the AoR.  
(20 AAC 25.1080(a)(3)(E) and 40 CFR 146.82(a)(3)(v))

### **Hydrologic and Hydrogeologic Information**

AOGCC recommends the following considerations:

- (i) What is the depth and location of all USDWs, water wells, and springs within the AoR? What is the direction of regional groundwater flow?
- (ii) What sources of data were used to determine regional and site-specific hydrologic and hydrogeologic characteristics? What, if any, field surveys or additional methods were used to fill data gaps?]
- (iii) Associated figures may include:
  - Maps and cross sections indicating the location and depth of USDWs. Note that information pertaining to the location and depth of USDWs within the AoR should be included in the cross sections submitted to satisfy requirements at 20 AAC 25.1080(a)(3)(A).
  - Potentiometric or isopach maps.  
(20 AAC 25.1080(a)(3)(F) 20 AAC 25.1080(a)(5) and 40 CFR 146.82(a)(3)(vi), 146.82(a)(5))

### **Other Information (Including Surface Air and/or Soil Gas Data, if Applicable)**

Please provide a narrative description of any other information that is relevant to the site characterization. If surface air and/or soil gas monitoring is required by the UIC Program Director as part of the Testing and Monitoring Plan, baseline data should be presented in this section. AOGCC recommends the following considerations:

- (i) Where any other analyses or assessments of the site conducted to support site characterization? What methods were used? What were the results?
- (ii) If gas monitoring was conducted to collect baseline data, what methods were used? Why was gas monitoring necessary or requested? What were the results?

### **Site Suitability – Minimum Criteria for Siting**

Please provide a description of how the proposed injection site meets the suitability requirements set forth at 20 AAC 25.1060. This demonstration should draw upon and synthesize the site characterization data described in 20 AAC 25.1060. Please frame this discussion to match the rule requirements, demonstrating that the injection zone can accommodate the total anticipated carbon dioxide volume and that the confining zone has sufficient integrity to contain the proposed injected volume and any displaced fluids. AOGCC recommends the following considerations:

- (i) What is the subsurface distribution of lithological facies? What are the implications for carbon

- dioxide plume migration?
- (ii) How will carbon dioxide be confined to the injection zone? How do the site characterization data demonstrate the lack of potential leakage pathways?
  - (iii) How will the carbon dioxide stream interact with well materials and subsurface formations (injection and confining zones)?
  - (iv) What is the total storage capacity of the injection zone? How was this determined? How is this sufficient to receive the proposed amount of carbon dioxide?
  - (v) Are there any potential concerns regarding confining zone integrity? What site characterization data support this determination?
  - (vi) Is secondary confinement necessary to ensure USDW protection? If so, what is the secondary confining zone, what are its characteristics, and how will it prevent the migration of carbon dioxide and displaced fluids into USDWs? Note that the need for characterizing an additional confining zone is ultimately determined by the UIC Program Director.  
(20 AAC 25.1060 and 40 CFR 146.83)

### **1. Map of Area of Review (AOR)**

Submit a map extending beyond the property boundaries of the injection well(s) or project area (area permit). The following items listed in public records or otherwise known to the applicant and occurring within the area of review of the facility property boundary must be included on the map:

- (i) 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;
- (ii) Surface bodies of water, springs, mines (surface and subsurface);
- (iii) Quarries, water wells, other pertinent surface features;
- (iv) Structures intended for human occupancy;
- (v) State, Tribal, and Territory boundaries, and roads; and
- (vi) Faults, if known or suspected.

Only information of public record is required to be included on this map;  
(20 AAC 25.1080(a)(2) and 40 CFR 146.82(a)(2))

### **2. Maps and Cross Sections of USDWs**

Submit 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.

An Underground Source of Drinking Water (USDW) is an aquifer or a portion thereof that:

- A. Supplies any public water system, **or** contains a sufficient quantity of ground water to supply a public water system (a sustainable delivery of 1 gallon per minute); **and**
  - 1. currently supplies drinking water for human consumption; **or**
  - 2. contains fewer than 10,000 mg/l total dissolved solids (TDS); **and**
- B. Is not an exempted aquifer. (See 20 AAC 25.440 and 25.1900 for definition and criteria of 'exempt aquifer').

(20 AAC 25.1080(a)(5) and 40 CFR 146.82(a)(5))

### **3. Geologic Structure and Lithology**

Submit information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, including:

- (i) Maps and cross sections of the area of review;
- (ii) 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;
- (iii) 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;
- (iv) Geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone(s);
- (v) 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
- (vi) Geologic and topographic maps and cross sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.

(20 AAC 25.1080(a)(3) and 40 CFR 146.82(a)(3))

#### **Part C – Tabulation of Artificial Penetration Data**

Submit a tabulation of data on wells within the area of review included on the AOR Map (Part B, Map 2) that penetrate the proposed injection zone. Such data shall include a description of each well type, construction, date drilled, location, depth, record of plugging and/or completion, any water quality data, and any additional information the AOGCC may require.

(20 AAC 25.1080(a)(4) and 40 CFR 146.82(a)(4))

#### **Part D – Corrective Action Plan**

Submit a corrective action plan describing the necessary steps or modifications to prevent movement of fluid into underground sources of drinking water through any artificial penetrations into the injection zone, within the AOR, that are improperly sealed, completed, or abandoned.

(20 AAC 25.1070 and 40 CFR 146.84)

#### **Part E – Formation Testing Program**

Submit a proposed pre-operational formation testing program to obtain an analysis of the physical and chemical characteristics of the injection zones, confining zones, fracture pressure, and formation fluids in the receiving formation. The pre-operational testing program should also include procedures for well testing and formation testing (including fall-off testing).

(20 AAC 25.1080(a)(8) 20 AAC 25.1220, and 40 CFR 146.82(a)(8); 146.87)

#### **Part F – Well Stimulation Program**

Submit a proposed well stimulation program, a description of the stimulation fluids to be used (including additives and diverting agents), stimulation procedures, and a determination that stimulation will not interfere with containment.

(20 AAC 25.1080(a)(9) and 40 CFR 146.82(a)(9))

### **Part G – Injection Well Construction Plan**

Submit a well construction plan that includes details of the cementing and casing program, logging procedures, information on planned MITs and annulus pressure testing, deviation checks, and a drilling, testing, and coring program that conform with the Class VI well construction requirements in 20 AAC 25.1210 and 40 CFR 146.86.

(R18-9-J657(B)(12); 40 CFR 146.82(a)(12))

### **Part H – Injection Well Construction Details**

Submit schematic or other appropriate drawings of the surface and subsurface construction details of the well that meet the construction requirements of 20 AAC 25.1210 tabular descriptions of open hole diameters and intervals and casing, tubing, and packer specifications.

(20 AAC 25.1080(a)(11) and 40 CFR 146.82(a)(11))

### **Part I – Injection Well Operation Plan and Procedures**

Submit a description of the proposed injection procedure and proposed operating data for the geologic sequestration site, including:

- (i) average and maximum daily rate and volume, and/or mass, and total anticipated volume, and/or mass, of the carbon dioxide stream;
- (ii) average and maximum injection pressure;
- (iii) the source of the carbon dioxide stream;
- (iv) An analysis of the chemical and physical characteristics of the carbon dioxide stream;
- (v) Maximum injection pressure (at surface and bottom-hole),
- (vi) Annulus pressure, and
- (vii) Annulus pressure/tubing differential; and
- (viii) Description of well shut down procedures

(20 AAC 25.1080(a)(7) and (10) and 40 CFR 146.82(a)(7) and (10))

### **Part J – Monitoring, Recording, and Reporting Plan**

The storage facility 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 AOGCC 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. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. Testing and monitoring associated with geologic sequestration projects must, at a minimum, include:

- (i) Analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;
- (ii) Installation and use 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;
- (iii) Corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion;
- (iv) 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;

- (v) A demonstration of external mechanical integrity at least once per year;
- (vi) A pressure fall-off test at least once every five years;
- (vii) 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);
- (viii) The AOGCC may require surface air monitoring and/or soil gas monitoring to detect movement of carbon dioxide that could endanger a USDW;
- (ix) Any additional monitoring, as required by the AOGCC, necessary to support, upgrade, and improve computational modeling of the area of review evaluation;
- (x) The storage facility operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected. 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 AOGCC that no amendment to the testing and monitoring plan is needed.
- (xi) A quality assurance and surveillance plan for all testing and monitoring requirements.

The owner or operator must provide at a minimum, the following reports to the AOGCC and the US EPA, in an electronic format approved by the AOGCC and EPA, as specified in 20 AAC 25.1610 for each Class VI permit:

- (i) Semi-annual reports documenting changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data and the results of monitoring prescribed under 20 AAC 25.1610.
- (ii) Report, within 30 days, the results of periodic tests of mechanical integrity; any well workover; and any other test of the injection well conducted by the permittee if required by the AOGCC.
- (iii) Report, within 24 hours any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs; or any failure to maintain mechanical integrity; or pursuant to compliance with the requirement at 20 AAC 25.1610.
- (iv) Owners or operators must notify the AOGCC in writing 30 days in advance of any planned well workover; stimulation activities, and any other planned test of the injection well conducted by the permittee.
- (v) Owners or operators must submit and retain all required reports, submittals, and notifications under Part J of this application.

(20 AAC 25.1250 and 20 AAC 25.1610 and 40 CFR 146.90 and 146.91)

### **Part K – Emergency and Remedial Response Plan**

Submit an emergency and remedial response plan to address movement of the injection or formation fluids or potential movement of the pressure front that may cause endangerment to USDWs. The Emergency and Remedial Response Plan should describe: local resources and infrastructure, emergency identification and response actions for each identified scenario (including natural seismic events), response personnel and equipment, an emergency communications plan, plan reviews/updates, and staff training and exercise procedures. The owner/operator shall review the plan no less frequently than every five years. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

(20 AAC 25.1080 20 AAC 25.1260 and 40 CFR 146.82, 40 CFR 146.94)

### **Part L – Plugging and Abandonment Plan**

Submit a plugging and abandonment plan that meets the requirements of 20 AAC 25.1300 and prior to plugging, the owner/operator must flush each well, determine bottom hole reservoir pressure, and perform a final external mechanical integrity test. The plugging and abandonment plan should also include information on plugs (including a schematic) and a description of plugging procedures. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

(20 AAC 25.1300 and 40 CFR 146.92)

### **Part M – Class VI; 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 20 AAC 25.1310. The Post-Injection Site Care and Site Closure Plan should describe: pre- and post-injection pressure differential and predicted position of the CO<sub>2</sub> plume and pressure front at site closure; a post-injection monitoring plan; information on alternative post-injection site care timeframe (if requested); non-endangerment demonstration criteria; and site closure plan (monitoring well plugging and site closure report). The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit:

- (i) Upon cessation of injection of carbon dioxide into a storage reservoir, but before application for a certificate of completion, the storage operator must either submit an amended post-injection site care and site closure plan or demonstrate to the AOGCC through monitoring data and modeling results that no amendment to the plan is needed. An amendment to the post-injection site care and site closure plan must be approved by the AOGCC and be incorporated into the storage facility permit, and is subject to the permit modification requirements of 20 AAC 25.1410 or 20 AAC 25.1430, as appropriate.
- (ii) At any time during the life of the storage facility, the storage operator may modify and resubmit the post-injection site care and site closure plan for the AOGCC's approval not more than 30 days after the change.
- (iii) Upon cessation of injection of carbon dioxide into a storage reservoir, and before a storage operator applies for a certificate of completion under 20 AAC 25.1320, the storage operator shall monitor the site to show the position of the carbon dioxide plume and pressure front and demonstrate, to the AOGCC, that underground sources of drinking water are not being endangered.
- (iv) Following the cessation of injection, the storage operator shall continue to conduct monitoring as specified in the AOGCC-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 AOGCC pursuant to requirements in 20 AAC 25.1310(h), unless the storage operator makes a demonstration under and 20 AAC 25.1310(g). A post-injection site care plan must require the storage operator to continue monitoring the storage facility until the storage facility no longer poses a danger to underground sources of drinking water and the demonstration under 20 AAC 25.1310(g) is submitted by the storage operator and approved by the AOGCC.
- (v) Notwithstanding 20 AAC 25.1310(f), if the storage operator demonstrates to the satisfaction of the AOGCC before 50 years after cessation of carbon dioxide injections, or before to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the storage facility no longer poses a danger to underground sources of drinking water, the

AOGCC 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 through a certificate of completion under 20 AAC 25.3120 before the end of the 50-year period or before the end of the approved alternative timeframe, if the AOGCC finds substantial evidence that the storage facility no longer poses a risk of endangerment to underground sources of drinking water. If the AOGCC does not approve the demonstration, the storage operator shall submit to the AOGCC a plan to continue post-injection site care until a demonstration can be made and approved by the AOGCC.

- (vi) Not less than 120 days before expiration of the approved monitoring period under this section, the storage operator shall either apply to the AOGCC for an additional monitoring period, or for a certificate of completion under AS 41.06.170 and 20 AAC 25.1320.
- (vii) A certificate of completion must identify all actions the storage operator has taken must take for final site closure, including the plugging of all monitoring wells in a manner approved by the AOGCC and which will not allow movement of injection or formation fluid that endanger underground sources of drinking water.
- (viii) Not more than 90 days after the AOGCC approves a certificate of completion, the storage operator shall submit a report to the AOGCC, the report shall be retained at a location designated by the AOGCC for not less than 10 years. The report must include: Each owner or operator of a Class VI injection well identified in the certificate of completion issued by the AOGCC shall must record, before transfer of the storage facility to the Department of Natural Resources under AS 41.06.170 , 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 information required under 20 AAC 25.1320(f).
- (ix) The storage operator must retain for 10 years following issuance of the certificate of completion, records collected during the post-injection site care period. The storage operator shall deliver the records to the Department of Natural Resources at the conclusion of the retention period, and the Department of Natural Resources will maintain the records. The AOGCC will be notified by the Department of Natural Resources when the records are delivered to the department.

(20 AAC 25.1310, 25.1320 and 40 CFR 146.93)

#### **Part N – Financial Responsibility**

Submit a Financial Responsibility Instrument approved by the AOGCC to demonstrate financial resources necessary for corrective action, well plugging and/or abandoning the Class VI injection well(s), post-injection site care and site closure, emergency and remedial response sufficient to address endangerment of USDWs. Because the cost estimate must be based on the costs to the regulatory agency of hiring a third party to perform the required activities per 20 AAC 25.1200(n), it is recommended that applicants solicit and submit cost estimates developed by third parties. The financial responsibility demonstration should also include draft instrument language.

(20 AAC 25.1200 and 40 CFR 146.85)

#### **Part O – Injection Depth Waiver**

A storage operator seeking a waiver of the requirement to inject below the lowermost underground source of drinking water shall also refer to 20 AAC 25.1270 and submit a supplemental report as required under that section. A supplemental report is not a part of the permit application. The storage operator shall submit a supplemental report concurrent with permit application. The supplemental report

must:

- (i) Demonstrate that the injection zone is laterally continuous, is not an underground source of drinking water, and is not hydraulically connected to an underground sources of drinking water; does not outcrop; has adequate injectivity, volume, and sufficient porosity to safely contain the injected carbon dioxide and formation fluid fluids; and has appropriate geochemistry;
- (ii) Demonstrate that the injection zone is bounded by laterally continuous, impermeable confining units above and below the injection zone adequate to prevent fluid movement and pressure buildup outside of the injection zone; and that the confining unit is free of transmissive faults and fractures; the report must further characterize the regional fracture properties and contain a demonstration that such fractures will not interfere with injection, serve as conduits, or endanger underground sources of drinking water;
- (iii) 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 20 AAC 25.1070, and is subject to requirement under 20 AAC 25.1070(c), and periodic reevaluation, as set forth in 20 AAC 25.1070(e).
- (iv) A demonstration of how well design and construction, in conjunction with the waiver, will ensure isolation of the injectate in lieu of requirements at 20 AAC 25.1210(a)(1) and will meet well construction requirements under 20 AAC 25.1210.
- (v) A description of how the monitoring and testing and any additional plans will be tailored to the storage facility to ensure protection of USDWs above and below the injection zone(s) if a waiver is granted.
- (vi) 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.
- (vii) Any other information requested by the AOGCC that the EPA Regional Administrator requires to inform the EPA Regional Administrator's decision to issue a waiver.

To assist the EPA Regional Administrator's decision on whether to grant a waiver of the injection depth requirements at 20 AAC 25.1210(a)(1), the AOGCC will submit, to the EPA Regional Administrator, documentation of the following:

- (i) An evaluation of the following information as it relates to siting, construction, and operation of a storage facility with a waiver: including
  - a) the integrity of the upper and lower confining units;
  - b) the suitability of the injection zone, including lateral continuity; lack of transmissive faults and fractures or knowledge of current or planned artificial penetrations into the injection zone or formations below the injection zone;
  - c) the potential capacity of the geologic formation to sequester carbon dioxide, accounting for the availability of alternative injection sites;
  - d) all other site characterization data, the proposed emergency and remedial response plan, and a demonstration of financial responsibility;
  - e) community needs, demands, and supply from drinking water resources;
  - f) planned needs, potential or future use of underground sources of drinking water and non-underground sources of drinking water in the area;
  - g) planned or permitted water, hydrocarbon, or mineral resource exploitation potential of the proposed injection formation and other formation 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 formation;
- h) the proposed plan for securing alternative resources or treating an underground source of drinking water formation waters in the event of contamination related to the carbon storage injection activity
- (ii) a summary of the AOGCC's consultation with the Department of Environmental Conservation and any tribe having jurisdiction over lands within the area of review of a well for which a waiver is sought.
- (iii) any other applicable considerations or information requested by the AOGCC, and any written information submitted by the commissioner of the Department of Environmental Conservation.

Upon receipt of a waiver to inject below the lower-most USDW, the owner/operator must comply with the following:

- (i) All requirements at 20 AAC 25.1070, 20 AAC 25.1200, 20 AAC 25.1230, 20 AAC 25.1240, 20 AAC 25.1610, 20 AAC 25.1300 and 20 AAC 25.1260;
- (ii) All requirements at 20 AAC 25.1210 with the following modified requirements:
  - a. A storage operator shall ensure that a Class VI well with an injection depth waiver is constructed and completed to prevent movement of fluid into any unauthorized zones including USDWs.
  - b. The casing and cementing program must be designed to prevent the movement of fluid into any unauthorized zone including USDWs in lieu of the requirements of 20 AAC 25.1210.
  - c. 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 AOGCC's discretion, another formation above the injection zone and below the nearest USDW above the injection zone.
- (iii) All requirements at 20 AAC 25.1250 with the following modifications:
  - a. The storage 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 AOGCC.
  - b. 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; and, indirect methods e.g. seismic, electrical, gravity, or electromagnetic surveys or down-hole carbon dioxide detection tools, unless the AOGCC determines, based on site-specific geology, that such methods are not appropriate.
- (iv) All requirements under 20 AAC 25.1310 with the following, modified post-injection site care monitoring requirements:
  - a. The storage 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 AOGCC.
  - b. 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; and indirect methods including, seismic, electrical, gravity, or electromagnetic surveys or down-hole carbon dioxide detection tools, unless the AOGCC determines based on site-specific geology, that such methods are not appropriate.
- (v) Any additional requirements requested by the AOGCC designed to ensure protection of USDWs above and below the injection zone.

(20 AAC 25.1270 and 40 CFR 146.95)

**Part P – Aquifer Exemption**

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 carbon storage under 20 AAC 25.442 and 40 CFR 144.7(d) if it meets the following criteria:

- (i) it does not currently serve as a source of drinking water; and
- (ii) the total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and
- (iii) it is not reasonably expected to supply a public water system.

(20 AAC 25.442 20 AAC 25.440 and 40 CFR 144.7(d); 40 CFR 146.4)

DRAFT

STATE OF ALASKA  
ALASKA OIL AND GAS CONSERVATION COMMISSION  
**PERMIT TO DRILL**

20 AAC 25.005

1a. Type of Work: Drill <input type="checkbox"/> Lateral <input type="checkbox"/> Redrill <input type="checkbox"/> Reentry <input type="checkbox"/>		1b. Proposed Well Class: Exploratory - Gas <input type="checkbox"/> Stratigraphic Test <input type="checkbox"/> Exploratory - Oil <input type="checkbox"/> Development - Oil <input type="checkbox"/> Development - Gas <input type="checkbox"/>			Service - WAG <input type="checkbox"/> Service - Winj <input type="checkbox"/> Service - Class VI <input type="checkbox"/> Service - Disp <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone <input type="checkbox"/>			1c. Specify if well is proposed for: Coalbed Gas <input type="checkbox"/> Gas Hydrates <input type="checkbox"/> Geothermal <input type="checkbox"/> Shale Gas <input type="checkbox"/>		
2. Operator Name:				5. Bond: Blanket <input type="checkbox"/> Single Well <input type="checkbox"/> Bond No. _____			11. Well Name and Number:			
3. Address:				6. Proposed Depth: MD: _____ TVD: _____			12. Field/Pool(s):			
4a. Location of Well (Governmental Section): Surface: _____ Top of Productive Horizon: _____ Total Depth: _____				7. Property Designation:			13. Approximate Spud Date:			
4b. Location of Well (State Base Plane Coordinates - NAD 27): Surface: x- _____ y- _____ Zone- _____				10. KB Elevation above MSL (ft): _____ GL / BF Elevation above MSL (ft): _____			15. Distance to Nearest Well Open to Same Pool:			
16. Deviated wells: _____ Kickoff depth: _____ feet Maximum Hole Angle: _____ degrees				17. Maximum Potential Pressures in psig (see 20 AAC 25.035) Downhole: _____ Surface: _____						
18. Casing Program:		Specifications				Top - Setting Depth - Bottom				Cement Quantity, c.f. or sacks
Hole	Casing	Weight	Grade	Coupling	Length	MD	TVD	MD	TVD	(including stage data)
19. <b>PRESENT WELL CONDITION SUMMARY</b> (To be completed for Redrill and Re-Entry Operations)										
Total Depth MD (ft):		Total Depth TVD (ft):		Plugs (measured):		Effect. Depth MD (ft):		Effect. Depth TVD (ft):		Junk (measured):
<b>Casing</b>		<b>Length</b>		<b>Size</b>		<b>Cement Volume</b>		<b>MD</b>		<b>TVD</b>
Conductor/Structural										
Surface										
Intermediate										
Production										
Liner										
Perforation Depth MD (ft):						Perforation Depth TVD (ft):				
Hydraulic Fracture planned? Yes <input type="checkbox"/> No <input type="checkbox"/>										
20. Attachments:		Property Plat <input type="checkbox"/>		BOP Sketch <input type="checkbox"/>		Drilling Program <input type="checkbox"/>		Time v. Depth Plot <input type="checkbox"/>		Shallow Hazard Analysis <input type="checkbox"/>
		Diverter Sketch <input type="checkbox"/>		Seabed Report <input type="checkbox"/>		Drilling Fluid Program <input type="checkbox"/>		20 AAC 25.050 requirements <input type="checkbox"/>		
21. I hereby certify that the foregoing is true and the procedure approved herein will not be deviated from without prior written approval.										
Authorized Name: _____						Contact Name: _____				
Authorized Title: _____						Contact Email: _____				
						Contact Phone: _____				
Authorized Signature: _____						Date: _____				
<b>Commission Use Only</b>										
Permit to Drill Number:		API Number: _____				Permit Approval Date:			See cover letter for other requirements.	
Conditions of approval : If box is checked, well may not be used to explore for, test, or produce coalbed methane, gas hydrates, or gas contained in shales: <input type="checkbox"/>										
Samples req'd: Yes <input type="checkbox"/> No <input type="checkbox"/>				Mud log req'd: Yes <input type="checkbox"/> No <input type="checkbox"/>						
H <sub>2</sub> S measures: Yes <input type="checkbox"/> No <input type="checkbox"/>				Directional svy req'd: Yes <input type="checkbox"/> No <input type="checkbox"/>						
Spacing exception req'd: Yes <input type="checkbox"/> No <input type="checkbox"/>				Inclination-only svy req'd: Yes <input type="checkbox"/> No <input type="checkbox"/>						
Post initial injection MIT req'd: Yes <input type="checkbox"/> No <input type="checkbox"/>										
Approved by: _____						APPROVED BY THE COMMISSION			Date: _____	
Comm.		Comm.		Sr Pet Eng		Sr Pet Geo		Sr Res Eng		

STATE OF ALASKA  
ALASKA OIL AND GAS CONSERVATION COMMISSION  
**APPLICATION FOR SUNDRY APPROVALS**

20 AAC 25.280

1. Type of Request: Abandon <input type="checkbox"/> Plug Perforations <input type="checkbox"/> Fracture Stimulate <input type="checkbox"/> Repair Well <input type="checkbox"/> Operations shutdown <input type="checkbox"/> Suspend <input type="checkbox"/> Perforate <input type="checkbox"/> Other Stimulate <input type="checkbox"/> Pull Tubing <input type="checkbox"/> Change Approved Program <input type="checkbox"/> Plug for Redrill <input type="checkbox"/> Perforate New Pool <input type="checkbox"/> Re-enter Susp Well <input type="checkbox"/> Alter Casing <input type="checkbox"/> Other: _____ <input type="checkbox"/>							
2. Operator Name:		4. Current Well Class: Exploratory <input type="checkbox"/> Development <input type="checkbox"/> Stratigraphic <input type="checkbox"/> Service <input type="checkbox"/>		5. Permit to Drill Number:			
3. Address:				6. API Number:			
7. If perforating: What Regulation or Conservation Order governs well spacing in this pool? Will perms require a spacing exception due to property boundaries? Yes <input type="checkbox"/> No <input type="checkbox"/>				8. Well Name and Number:			
9. Property Designation (Lease Number):		10. Field:		Current Pools: Proposed Pools:			
<b>11. PRESENT WELL CONDITION SUMMARY</b>							
Total Depth MD (ft):	Total Depth TVD (ft):	Effective Depth MD:	Effective Depth TVD:	MPSP (psi):	Plugs (MD):	Junk (MD):	
<b>Casing</b>	<b>Length</b>	<b>Size</b>	<b>MD</b>	<b>TVD</b>	<b>Burst</b>	<b>Collapse</b>	
Structural							
Conductor							
Surface							
Intermediate							
Production							
Liner							
Perforation Depth MD (ft):		Perforation Depth TVD (ft):		Tubing Size:		Tubing Grade:	Tubing MD (ft):
Packers and SSSV Type:			Packers and SSSV MD (ft) and TVD (ft):				
12. Attachments: Proposal Summary <input type="checkbox"/> Wellbore schematic <input type="checkbox"/> Detailed Operations Program <input type="checkbox"/> BOP Sketch <input type="checkbox"/>			13. Well Class after proposed work: Exploratory <input type="checkbox"/> Stratigraphic <input type="checkbox"/> Development <input type="checkbox"/> Service <input type="checkbox"/>				
14. Estimated Date for Commencing Operations:			15. Well Status after proposed work: OIL <input type="checkbox"/> WINJ <input type="checkbox"/> WDSPL <input type="checkbox"/> Class VI <input type="checkbox"/> GAS <input type="checkbox"/> WAG <input type="checkbox"/> GSTOR <input type="checkbox"/> Suspended <input type="checkbox"/> GINJ <input type="checkbox"/> Op Shutdown <input type="checkbox"/> Abandoned <input type="checkbox"/>				
16. Verbal Approval: Date: _____ AOGCC Representative: _____							
17. I hereby certify that the foregoing is true and the procedure approved herein will not be deviated from without prior written approval.							
Authorized Name and Digital Signature with Date: _____			Contact Name: _____				
Authorized Title: _____			Contact Email: _____				
			Contact Phone: _____				
<b>AOGCC USE ONLY</b>							
Conditions of approval: Notify AOGCC so that a representative may witness				Sundry Number: _____			
Plug Integrity <input type="checkbox"/> BOP Test <input type="checkbox"/> Mechanical Integrity Test <input type="checkbox"/> Location Clearance <input type="checkbox"/>							
Other Conditions of Approval:				Suspension Expiration Date: _____			
Post Initial Injection MIT Req'd? Yes <input type="checkbox"/> No <input type="checkbox"/>				Subsequent Form Required: _____			
Approved by:		COMMISSIONER		APPROVED BY THE AOGCC		Date: _____	
Comm.	Comm.	Sr Pet Eng		Sr Pet Geo		Sr Res Eng	

STATE OF ALASKA  
ALASKA OIL AND GAS CONSERVATION COMMISSION  
**REPORT OF SUNDRY WELL OPERATIONS**

1. Operations Performed:	Susp Well Insp <input type="checkbox"/>	Plug Perforations <input type="checkbox"/>	Fracture Stimulate <input type="checkbox"/>	Pull Tubing <input type="checkbox"/>	Operations shutdown <input type="checkbox"/>
	Install Whipstock <input type="checkbox"/>	Perforate <input type="checkbox"/>	Other Stimulate <input type="checkbox"/>	Alter Casing <input type="checkbox"/>	Change Approved Program <input type="checkbox"/>
	Mod Artificial Lift <input type="checkbox"/>	Perforate New Pool <input type="checkbox"/>	Repair Well <input type="checkbox"/>	Coiled Tubing Ops <input type="checkbox"/>	Other: _____ <input type="checkbox"/>

2. Operator Name	4. Well Class Before Work:	5. Permit to Drill Number:
	Development <input type="checkbox"/>	Exploratory <input type="checkbox"/>
	Stratigraphic <input type="checkbox"/>	Service <input type="checkbox"/>

3. Address:	6. API Number:
-------------	----------------

7. Property Designation (Lease Number):	8. Well Name and Number:
---	--------------------------

9. Logs (List logs and submit electronic data per 20AAC25.071):	10. Field/Pool(s):
---	--------------------

11. Present Well Condition Summary:

Total Depth	measured _____ feet	Plugs	measured _____ feet
	true vertical _____ feet	Junk	measured _____ feet
Effective Depth	measured _____ feet	Packer	measured _____ feet
	true vertical _____ feet		true vertical _____ feet

Casing	Length	Size	MD	TVD	Burst	Collapse
Structural						
Conductor						
Surface						
Intermediate						
Production						
Liner						

Perforation depth Measured depth \_\_\_\_\_ feet

True Vertical depth \_\_\_\_\_ feet

Tubing (size, grade, measured and true vertical depth) \_\_\_\_\_

Packers and SSSV (type, measured and true vertical depth) \_\_\_\_\_

12. Stimulation or cement squeeze summary:

Intervals treated (measured): \_\_\_\_\_

Treatment descriptions including volumes used and final pressure: \_\_\_\_\_

13a. Representative Daily Average Production or Injection Data

	Oil-Bbl	Gas-Mcf	Water-Bbl	Casing Pressure	Tubing Pressure
Prior to well operation:					
Subsequent to operation:					

13b. Pools active after work: \_\_\_\_\_

14. Attachments (required per 20 AAC 25.070, 25.071, & 25.283)	15. Well Class after work:
Daily Report of Well Operations <input type="checkbox"/>	Exploratory <input type="checkbox"/> Development <input type="checkbox"/> Service <input type="checkbox"/> Stratigraphic <input type="checkbox"/>
Copies of Logs and Surveys Run <input type="checkbox"/>	16. Well Status after work:
Electronic Fracture Stimulation Data <input type="checkbox"/>	Oil <input type="checkbox"/> Gas <input type="checkbox"/> WDSPL <input type="checkbox"/>
	GSTOR <input type="checkbox"/> WINJ <input type="checkbox"/> WAG <input type="checkbox"/> GINJ <input type="checkbox"/> SUSP <input type="checkbox"/> Class VI <input type="checkbox"/>

17. I hereby certify that the foregoing is true and correct to the best of my knowledge. \_\_\_\_\_ Sundry Number or N/A if C.O. Exempt: \_\_\_\_\_

Authorized Name and Digital Signature with Date: _____	Contact Name: _____
	Contact Email: _____
Authorized Title: _____	Contact Phone: _____

Sr Pet Eng: _____	Sr Pet Geo: _____	Sr Res Eng: _____
-------------------	-------------------	-------------------



28. CORE DATA      Conventional Core(s): Yes  No       Sidewall Cores: Yes  No

If Yes, list formations and intervals cored (MD/TVD, From/To), and briefly summarize lithology and presence of oil, gas or water (submit separate pages if needed). Submit detailed descriptions, core chips, photographs, and all subsequent laboratory analytical results per 20 AAC 25.071 no matter when acquired.

29. GEOLOGIC MARKERS and POOL BOUNDARIES: (list all encountered)      30. FORMATION TESTS

NAME	MD	TVD	Well tested? Yes <input type="checkbox"/> No <input type="checkbox"/>
Permafrost - Top Permafrost - Base Top of Productive Interval			If Yes, list intervals and formations tested, briefly summarizing test results for each. Attach separate pages if needed and submit detailed test info including reports and Excel or ASCII tables per 20 AAC 25.071.
Formation Name at TD:			

31. List of Attachments:

Information to be attached includes, but is not limited to: summary of daily operations, wellbore schematic, directional or inclination survey, as-built, core analysis, paleontological report, production or well test results, per 20 AAC 25.070.

32. I hereby certify that the foregoing is true and correct to the best of my knowledge.

Authorized Name and Digital Signature with Date:	Contact Name: _____
	Contact Email: _____
	Contact Phone: _____

Authorized Title: \_\_\_\_\_

**INSTRUCTIONS**

- General: This form and the required attachments provide a complete and concise record for each well drilled in Alaska. Submit a current well schematic diagram with each 10-407. Submit 10-407 and attachments in PDF format to aogcc.permitting@alaska.gov. All laboratory analytical reports from a well must be submitted to the AOGCC, no matter when the analyses are conducted per 20 AAC 25.071.
- Item 1a: Multiple completion is defined as a well producing from more than one pool with production from each pool completely segregated. Each segregated pool is a completion.
- Item 1b: Well Class - Service wells: Gas Injection, Water Injection, Water-Alternating-Gas Injection, Salt Water Disposal, Water Supply for Injection, Observation, or Other.
- Item 4b: TPI (Top of Producing Interval).
- Item 9: The Kelly Bushing, Ground Level, and Base Flange elevations in feet above Mean Sea Level. Use same as reference for depth measurements given in other spaces on this form and in any attachments.
- Item 15: The API number reported to AOGCC must be 14 digits (ex: 50-029-20123-00-00).
- Item 19: Report the Division of Oil & Gas / Division of Mining Land and Water: Plan of Operations (LO/Region YY-123), Land Use Permit (LAS 12345), and/or Easement (ADL 123456) number.
- Item 20: Report measured depth and true vertical thickness of permafrost. Provide MD and TVD for the top and base of permafrost in Box 29.
- Item 22: Review the reporting requirements of 20 AAC 25.071 and, pursuant to AS 31.05.030, submit all electronic data within 90 days of completion, suspension, or abandonment; or 90 days after log acquisition, whichever occurs first.
- Item 23: Attached supplemental records should show the details of any multiple stage cementing and the location of the cementing tool.
- Item 24: If this well is completed for separate production from more than one interval (multiple completion), so state in item 1, and in item 23 show the producing intervals for only the interval reported in item 26. (Submit a separate form for each additional interval to be separately produced, showing the data pertinent to such interval).
- Item 27: Method of Operation: Flowing, Gas Lift, Rod Pump, Hydraulic Pump, Submersible, Water Injection, Gas Injection, Shut-in, or Other (explain).
- Item 28: Provide a listing of intervals cored and the corresponding formations, and a brief description in this box. Pursuant to 20 AAC 25.071, submit detailed descriptions, core chips, photographs, and all subsequent laboratory analytical results, including, but not limited to: porosity, permeability, fluid saturation, fluid composition, fluid fluorescence, vitrinite reflectance, geochemical, or paleontology.
- Item 30: Provide a listing of intervals tested and the corresponding formation, and a brief summary in this box. Submit detailed test and analytical laboratory information required by 20 AAC 25.071.
- Item 31: Pursuant to 20 AAC 25.070, attach to this form: well schematic diagram, summary of daily well operations, directional or inclination survey, and other tests as required including, but not limited to: core analysis, paleontological report, production or well test results.

**STATE OF ALASKA  
ALASKA OIL AND GAS CONSERVATION COMMISSION  
Mechanical Integrity Test**

Submit to: [jim.regg@alaska.gov](mailto:jim.regg@alaska.gov); [AOGCC.Inspectors@alaska.gov](mailto:AOGCC.Inspectors@alaska.gov); [phoebe.brooks@alaska.gov](mailto:phoebe.brooks@alaska.gov) [chris.wallace@alaska.gov](mailto:chris.wallace@alaska.gov)

**OPERATOR:** \_\_\_\_\_  
**FIELD / UNIT / PAD:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_  
**OPERATOR REP:** \_\_\_\_\_  
**AOGCC REP:** \_\_\_\_\_

Well			Pressures:	Pretest	Initial	15 Min.	30 Min.	45 Min.	60 Min.	
PTD	Type Inj		Tubing							Type Test
Packer TVD	BBL Pump		IA							Interval
Test psi	BBL Return		OA							Result
<b>Notes:</b>										
Well			Pressures:	Pretest	Initial	15 Min.	30 Min.	45 Min.	60 Min.	
PTD	Type Inj		Tubing							Type Test
Packer TVD	BBL Pump		IA							Interval
Test psi	BBL Return		OA							Result
<b>Notes:</b>										
Well			Pressures:	Pretest	Initial	15 Min.	30 Min.	45 Min.	60 Min.	
PTD	Type Inj		Tubing							Type Test
Packer TVD	BBL Pump		IA							Interval
Test psi	BBL Return		OA							Result
<b>Notes:</b>										
Well			Pressures:	Pretest	Initial	15 Min.	30 Min.	45 Min.	60 Min.	
PTD	Type Inj		Tubing							Type Test
Packer TVD	BBL Pump		IA							Interval
Test psi	BBL Return		OA							Result
<b>Notes:</b>										
Well			Pressures:	Pretest	Initial	15 Min.	30 Min.	45 Min.	60 Min.	
PTD	Type Inj		Tubing							Type Test
Packer TVD	BBL Pump		IA							Interval
Test psi	BBL Return		OA							Result
<b>Notes:</b>										
Well			Pressures:	Pretest	Initial	15 Min.	30 Min.	45 Min.	60 Min.	
PTD	Type Inj		Tubing							Type Test
Packer TVD	BBL Pump		IA							Interval
Test psi	BBL Return		OA							Result
<b>Notes:</b>										
Well			Pressures:	Pretest	Initial	15 Min.	30 Min.	45 Min.	60 Min.	
PTD	Type Inj		Tubing							Type Test
Packer TVD	BBL Pump		IA							Interval
Test psi	BBL Return		OA							Result
<b>Notes:</b>										

**TYPE INJ Codes**  
W = Water  
G = Gas  
S = Slurry  
I = Industrial Wastewater  
N = Not Injecting

**TYPE TEST Codes**  
P = Pressure Test  
O = Other (describe in Notes)

**INTERVAL Codes**  
I = Initial Test  
4 = Four Year Cycle  
V = Required by Variance  
O = Other (describe in notes)

**Result Codes**  
P = Pass  
F = Fail  
I = Inconclusive

## **Appendix A-2 Permit Template**

DRAFT

# Alaska UIC Permit Template Class VI

DRAFT

**UNDERGROUND INJECTION CONTROL PROGRAM**

**PERMIT to Construct and Inject Class VI Injection Wells**

**Permit No. UIC-AKVI-FYXX-#**

**[PROJECT NAME] Project**

**[DESCRIPTIVE LOCATION], Alaska**

**Issued to:**

**[COMPANY NAME]  
[ADDRESS LINE 1]  
[ADDRESS LINE 2]  
[ADDRESS LINE 3]**

**AUTHORIZING SIGNATURES**

Name of Commissioner  
Chair, Commissioner

Name of Commissioner  
Commissioner

Name of Commissioner  
Commissioner

Signed this \_\_\_ day of \_\_\_\_\_, 20 \_\_\_

**Table of Contents**

**AUTHORIZING SIGNATURE..... 2**

**PART I. AUTHORIZATION TO CONSTRUCT AND INJECT..... 7**

**PART II. SPECIFIC PERMIT CONDITIONS..... 9**

**A. REQUIREMENTS PRIOR TO DRILLING, TESTING, CONSTRUCTING, OR OPERATING ..... 9**

**1. Financial Assurance ..... 9**

**2. Field Demonstration Submittal, Notification, and Reporting..... 9**

**B. WELL CONSTRUCTION..... 9**

**1. Siting..... 9**

**2. Casing and Cementing..... 9**

**3. Tubing and Packer Specification ..... 9**

**C. CONDITIONS FOR WELLS AND PROPOSED WELLS ..... 10**

**1. Surface Location..... 10**

**2. Well Construction Details..... 10**

**3. Proposed Well Construction Details..... 10**

**4. Injection Formation Testing..... 10**

**5. Injection Interval..... 11**

**6. Monitoring Devices ..... 11**

**7. Pressure Fall-Off Test (FOT)..... 11**

**8. Proposed Changes and Workovers ..... 11**

**9. Testing during Drilling and Construction of Proposed Well..... 12**

**D. AREA OF REVIEW AND CORRECTIVE ACTION ..... 12**

**E. WELL OPERATION ..... 13**

**1. Injection Pressure Limitation ..... 13**

**2. Stimulation Program ..... 13**

3.	Additional Injection Limitation .....	13
4.	Annulus Fluid .....	13
5.	Annulus/Tubing Pressure Differential .....	13
6.	Automatic Alarms and Automatic Shut-off System .....	13
7.	Precautions to Prevent Well Blowouts .....	14
8.	Circumstances Under Which Injection Must Cease .....	14
9.	Approaches for Ceasing Injection .....	14
<b>F.</b>	<b>MECHANICAL INTEGRITY .....</b>	<b>14</b>
1.	Standards .....	14
2.	Mechanical Integrity Testing .....	15
3.	Prior Notice and Reporting .....	16
4.	Gauge and Meter Calibration .....	16
5.	Loss of Mechanical Integrity .....	16
6.	Mechanical Integrity Testing on Request from AOGCC .....	17
<b>G.</b>	<b>TESTING AND MONITORING .....</b>	<b>17</b>
1.	Testing and Monitoring Plan .....	17
2.	Carbon Dioxide Stream Analysis.....	17
3.	Continuous Monitoring.....	18
4.	Corrosion Monitoring.....	18
5.	Groundwater Quality Monitoring .....	18
6.	External Mechanical Integrity Testing .....	18
7.	Pressure Fall-Off Test.....	18
8.	Plume and Pressure Front Tracking.....	18
9.	Surface Air and/or Soil Gas Monitoring.....	19
10.	Additional Monitoring .....	19
<b>H.</b>	<b>REPORTING AND RECORDKEEPING.....</b>	<b>19</b>
1.	Electronic Reporting .....	19
2.	Semi-Annual Reports.....	19

3.	24-Hour Reporting .....	19
4.	Reports on Well Tests and Workovers.....	20
5.	Records.....	20
<b>I.</b>	<b>INJECTION WELL PLUGGING .....</b>	<b>21</b>
1.	Prior to Well Plugging .....	21
2.	Well Plugging Plan.....	21
3.	Revision of Well Plugging Plan.....	21
4.	Notice of Plugging .....	21
5.	Plugging and Abandonment Approval and Report.....	21
6.	Temporary Abandonment .....	21
<b>J.</b>	<b>POST-INJECTION SITE CARE AND CLOSURE .....</b>	<b>22</b>
1.	Post-Injection Site Care and Site Closure Plan .....	22
2.	Carbon Dioxide Plume and Pressure Front Monitoring.....	22
3.	Notification and Well Plugging.....	23
4.	Site Closure Report and Recordkeeping.....	23
<b>K.</b>	<b>EMERGENCY AND REMEDIAL RESPONSE .....</b>	<b>23</b>
<b>L.</b>	<b>FINANCIAL ASSURANCE REQUIREMENTS.....</b>	<b>24</b>
1.	Demonstration of Financial Responsibility.....	24
2.	Cost Estimate Updates.....	24
3.	Notification.....	24
4.	Establishing Other Coverage .....	25
<b>M.</b>	<b>DURATION OF PERMIT.....</b>	<b>25</b>
<b>PART III. GENERAL PERMIT CONDITIONS.....</b>		<b>25</b>
<b>A.</b>	<b>EFFECT OF PERMIT .....</b>	<b>25</b>
<b>B.</b>	<b>PERMIT ACTIONS .....</b>	<b>26</b>
1.	Modification, Revocation and Reissuance, or Termination.....	26
2.	Minor Modifications.....	26
3.	Transfers .....	26

**C. SEVERABILITY ..... 26**

**D. CONFIDENTIALITY ..... 26**

**E. GENERAL DUTIES AND REQUIREMENTS ..... 27**

**1. Duty to Comply ..... 27**

**2. Definitions ..... 27**

**3. Penalties for Violations of Permit Conditions ..... 27**

**4. Need to Halt or Reduce Activity not a Defense ..... 27**

**5. Duty to Mitigate..... 27**

**6. Proper Operation and Maintenance..... 27**

**7. Property Rights ..... 28**

**8. Duty to Provide Information..... 28**

**9. Inspection and Entry ..... 28**

**10. Signatory Requirements ..... 29**

**11. Additional Reporting Requirements ..... 29**

**12. Duration; Storage Facility Permit Continuation of Expiring Permit ..... 30**

- ATTACHMENT A – Injection Well Operation Plan and Procedures
- ATTACHMENT B – Project Location Maps
- ATTACHMENT C –Schematics and Construction Details
- ATTACHMENT D – Reporting Forms
- ATTACHMENT E – Area of Review and Corrective Action Plan
- ATTACHMENT F – Geophysical Logging Requirements
- ATTACHMENT G – Pressure Falloff Requirements
- ATTACHMENT H – Testing and Monitoring Plan
- ATTACHMENT I – Plugging and Abandonment Plan
- ATTACHMENT J – Financial Assurance Demonstration
- ATTACHMENT K – Stimulation Program
- ATTACHMENT L – Emergency and Remedial Response Plan
- ATTACHMENT M – Post Injection Site Care and Site Closure Plan

## PART I. AUTHORIZATION TO CONSTRUCT AND INJECT

Pursuant to the Underground Injection Control regulations of the Alaska Oil and Gas Conservation Commission (AOGCC) codified at Title 20 of the Alaska Administrative Code, Chapter 25, Article 9 Carbon Storage [COMPANY NAME], [ADDRESS LINE 1], [LINE 2 LINE3] is hereby authorized, contingent upon Permit conditions, to construct and operate a Class VI storage facility used to dispose and store Carbon Dioxide (CO<sub>2</sub>) generated by the Permittee's facility [for non-commercial facilities DURING THE MANUFACTURE OF XXX; for commercial facilities AND FROM OTHER SOURCES] at the [PROJECT NAME]. The Project is in [PROJECT LOCATION], Alaska, approximately [DISTANCE AND DIRECTION TO NEAREST LANDMARK], as depicted in Attachment B. The location is [LOCATION DESCRIPTION (Include Section, Township, Range, with latitude/longitude)]. The well [IS/WILL BE] located [DESCRIBE LOCATION].

The injection zone is within the [FORMATION NAME] Formation at the [FOR WELLS NOT YET DRILLED USE APPROXIMATE] depths of [NUMBER] feet to [NUMBER] feet below ground level. The authorized injection interval is within the [FORMATION NAME] Formation at the [FOR WELLS NOT YET DRILLED USE APPROXIMATE] depths of [NUMBER] to [NUMBER] feet below ground level.

[DESCRIBE INJECTATE AND SOURCE OR PRODUCTION PROCESS] [INDICATE IF AQUIFER EXEMPTION EXPANSION IS REQUIRED OR HAS BEEN APPROVED.]

For the permitted wells within the Area of Review (AOR), AOGCC will issue authorization to drill and construct only after requirements of Financial Responsibility in Part II, Section L of this Permit have been met. AOGCC will grant authorization to inject only after the requirements of Part II, Sections C, D, E and F of this Permit have been met. Operation of injection [WELL ID] will be limited to a maximum volume of [SPECIFY QUANTITY] and pressure of [SPECIFY QUANTITY]. All conditions set forth herein refer to Title 20, Chapter 25, Article 9 of the Alaska Administrative Code (AAC), which are regulations in effect on the date that this Permit is effective.

This Permit consists of [NUMBER] pages plus Attachments, and includes all items listed in the Table of Contents. Further, it is based upon representations made by [COMPANY NAME] (the Permittee) and on other information contained in the administrative record. It is the responsibility of the Permittee to read, understand, and comply with all terms and conditions of this Permit.

This Permit and the authorization to construct, operate, and inject are issued for a period to include the approximate [NUMBER]-year Project operation unless terminated under the conditions set forth in Part III, Section B.1 of this Permit. This Permit and authorization to inject shall also include additional post-closure monitoring for at least fifty (50) years following cessation of injection unless an alternative timeframe is approved by AOGCC.

This Permit is issued on [DATE] and becomes effective on [DATE]. This Permit is issued for a period of xx years unless the Permit is terminated under the conditions set forth in Part III.B.1. or administratively extended under the conditions set forth in Part III.E.

Name of Commissioner  
Chair, Commissioner

Name of Commissioner  
Commissioner

Name of Commissioner  
Commissioner

DRAFT

**PART II. SPECIFIC PERMIT CONDITIONS**

**A. REQUIREMENTS PRIOR TO DRILLING, TESTING, CONSTRUCTING, OR OPERATING**

**1. Financial Assurance**

The Permittee shall supply evidence of financial assurance prior to commencing any well drilling and construction, in accordance with Section L of this part.

**2. Field Demonstration Submittal, Notification, and Reporting**

- a. Prior to each demonstration or test required in this Permit, the Permittee shall submit plans and specifications for procedures to the AOGCC for approval 90 days prior to demonstration or testing activities. No demonstration or test in these sections may proceed without prior written approval from AOGCC.
- b. The Permittee must notify AOGCC at least thirty (30) days prior to performing any required field demonstrations or test, after AOGCC approves the plans/procedures for testing, in order to allow AOGCC to arrange to witness if so elected.
- c. The Permittee shall submit results of each demonstration or test required in Part II of this Permit to AOGCC within thirty (30) days of completion, unless otherwise noted. [INCLUDE SECTION ON AQUIFER EXEMPTION EXPANSION IF APPLICABLE – SEE 20 AAC 25.442]

**B. WELL CONSTRUCTION**

**1. Siting**

The Permittee has demonstrated to the satisfaction of the AOGCC that the well is in an area with suitable geology in accordance with the requirements of 20 AAC 25.1060 A.A.C. R18-9- J658.

**2. Casing and Cementing**

Casing and cement or other materials used in the construction of the well must have sufficient structural strength for the life of the geologic sequestration project. All well materials must be compatible with all 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 AOGCC. The casing and cementing program must prevent the movement of fluids into or between USDWs for the expected life of the well in accordance with 20 AAC 25.1210 A.A.C. R18-9-J661. The casing and cement used in the construction of this well are shown in Attachment C of this Permit and in the administrative record for this Permit. Any change must be submitted in an electronic format for approval by the AOGCC before installation.

**3. Tubing and Packer Specification 20 AAC 25.1210(d)**

Tubing and packer materials used in the construction of the 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 AOGCC. The Permittee shall

inject only through tubing with a packer set within the long string casing at a point within or below the confining zone immediately above the injection zone. The tubing and packer used in the well are represented in engineering drawings contained in Attachment C of this Permit. Any change must be submitted in an electronic format for approval by the AOGCC before installation.

**C. CONDITIONS FOR WELLS AND PROPOSED WELLS**

**1. Surface Location**

[DESCRIBE LOCATION OF EXISTING AND PROPOSED WELLS]

**2. Well Construction Details**

A well schematic for each well is contained in Attachment C of this Permit. The Permittee shall at all times maintain the well consistent with this well schematic.

**3. Proposed Well Construction Details**

The Permittee shall submit an updated well schematic for each proposed well and must receive written AOGCC approval prior to commencing drilling and construction of the well.

**4. Injection Formation Testing**

Prior to the AOGCC authorizing injection, the Permittee shall perform all pre- injection logging, sampling, and testing specified at 20 AAC 25.1220 A.A.C. R18-9-J662. This testing shall include:

- a. Logs, surveys and tests to determine or verify the depth, thickness, porosity, permeability, lithology, and formation fluid salinity in all relevant geologic formations. These tests shall include:
  - i. Deviation checks;
  - ii. Logs and tests before and upon installation of the surface casing;
  - iii. Logs and tests before and upon installation of the long-string casing;
  - iv. Tests to demonstrate internal and external mechanical integrity; and
  - v. Any alternative methods that are required by and/or approved by the AOGCC.
  - vi. Whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone;
  - vii. Records of the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone;
  - viii. Tests to provide information about the injection and confining zones, including calculated fracture pressure and the physical and chemical characteristics of the injection and confining zones and the formation fluids in the injection zone;
  - ix. Tests to determine maximum allowable injection pressure; and
  - x. Tests to verify hydrogeologic characteristics of the injection zone, including:
    - a) A pressure fall-off test and
    - b) A pumping test or injectivity tests.

The Permittee shall submit to the AOGCC for approval in an electronic format a schedule for

logging and testing activities 30 days prior to conducting the first test and submit any changes to the schedule 30 days prior to the next scheduled test. The Permittee must provide the AOGCC or their representative with the opportunity to witness all logging, sampling, and testing required under this Section.

**5. Injection Interval**

The Wells will inject into the [DESCRIBE FORMATION] within the [NAME OF FACILITY]. Injection by the Wells area only permitted into [FORMATION NAME] Formation within the depth range as depicted in the as-built diagrams in Attachment C (i.e., at a depth of approximately [NUMBER] to [NUMBER] feet bgs).

**6. Monitoring Devices**

The Permittee shall maintain continuous monitoring devices and use them to monitor injection pressure, flow rate, volume, the pressure on the annulus between the tubing and the long string of casing, annulus fluid level, and temperature. This monitoring shall be performed as described in the Testing and Monitoring Plan to meet the requirements of 20 AAC 25.1250 A.A.C. R18-9-J665. The Permittee shall maintain for AOGCC's inspection at the facility an appropriately scaled, continuous record of these monitoring results as well as original files of any digitally recorded information pertaining to these operations.

**7. Pressure Fall-Off Test (FOT)**

The Permittee shall conduct a pressure fall-off test at least once every five years unless more frequent testing is required by the AOGCC based on site- specific information. The test shall be performed as described in the Testing and Monitoring Plan to meet the requirements of 20 AAC 25.1250 A.A.C. R18-9-J665.

**8. Proposed Changes and Workovers**

The Permittee shall give advance notice to AOGCC as soon as possible, pursuant to and in accordance with A.A.C. R18-9-D635, of any planned physical alterations or additions to the Well, including sidetracking and deepening or perforating additional intervals. Any changes in well construction, including changes in casing, tubing, packers, and/or perforations other than minor changes, require prior written approval by AOGCC and may require a permit modification under the requirements of A.A.C. R18-9-C632. Modifications that are considered routine in well construction details, such as tubing dimensions and strengths, packer models, types and setting depths, and perforation interval changes within the permitted injection zone may be processed by AOGCC as minor permit modifications consistent with A.A.C. R18-9-C633.

For the Well, the Permittee shall provide all records of well workovers, logging, or other subsequent test data to AOGCC within sixty (60) days of completion of the activity.

The Permittee shall submit all reports required by this Permit using the appropriate reporting forms contained in Attachment D.

The Permittee shall perform a Mechanical Integrity Test (MIT), using the procedures set forth in Part II.F, within thirty (30) days of completion of workovers or alterations and prior

to resuming injection activities, in accordance with Part II.D.1. The Permittee shall provide results of the MIT to AOGCC within sixty (60) days of completion.

**9. Testing during Drilling and Construction of Proposed Well**

The Permittee shall include logs and other tests conducted during drilling and construction including, at a minimum, deviation checks, casing logs, and injection formation tests as outlined in 20 AAC 25.1220 A.A.C. R18-9-J662. The Permittee shall conduct Open Hole logs over the entire open hole sequence below the conductor casing.

The Permittee shall conduct formation evaluation logs and tests and shall provide and use those results to estimate and report values for porosity, permeability, compressibility, static formation pressure, effective thickness, lithology, and rock mechanical properties for both the injection and confining zones identified within the permitted geological sequence.

The Permittee shall collect and analyze full-diameter cores from the overlying confining unit [NAME OF FORMATION] and within the [NAME OF FORMATION] Formation during drilling of the Proposed Well.

At a minimum, the owner or operator must determine or calculate the following information concerning the injection and confining zone(s):

- a. fracture pressure;
- b. other physical and chemical characteristics of the injection and confining zone(s); and
- c. physical and chemical characteristics of the formation fluids in the 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):
  - i. a pressure fall-off test; and,
  - ii. a pump test; or
  - iii. injectivity tests.

**D. AREA OF REVIEW AND CORRECTIVE ACTION**

The Area of Review (AOR) is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The AOR is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected CO<sub>2</sub> stream and is based on available site characterization, monitoring, and operational data. The Permittee shall maintain and comply with the approved Area of Review and Corrective Action Plan (Attachment E of this Permit) which is an enforceable condition of this Permit and shall meet the requirements of 20 AAC 25.1070 A.A.C. R18-9-J659.

At the fixed frequency specified in Attachment E, or more frequently when monitoring and operational conditions warrant, the Permittee must reevaluate the AOR and perform corrective action and update Attachment E or demonstrate to the AOGCC that no update is needed.

Following each AOR reevaluation or a demonstration that no evaluation is needed, the Permittee shall submit the resultant information in an electronic format to the AOGCC for

review and approval of the AOR results. Once approved by the AOGCC, the revised Area of Review and Corrective Action Plan will become an enforceable condition of this Permit.

**E. WELL OPERATION**

**1. Injection Pressure Limitation**

Except during stimulation, the Permittee 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 shall injection pressure initiate fractures or propagate existing fractures in the confining zone or cause the movement of injection or formation fluids into a USDW. The maximum injection pressure limit is listed in Part I of this Permit.

**2. Stimulation Program**

Pursuant to requirements at 20 AAC 25.1080 A.A.C. R18-9-J657, all stimulation programs proposed by the Permittee must be approved by the AOGCC as a permit modification and incorporated into Attachment K of this Permit.

**3. Additional Injection Limitation**

No injectate other than that identified in Part I of this Permit shall be injected except fluids used for stimulation, rework, and well tests as approved by the AOGCC.

**4. Annulus Fluid**

The Permittee must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the AOGCC.

**5. Annulus/Tubing Pressure Differential**

Except during workovers or times of annulus maintenance, the Permittee must maintain on the annulus a pressure that exceeds the operating injection pressure as specified in Part I of this Permit, unless the AOGCC determines that such requirement might harm the integrity of the well or endanger USDWs.

**6. Automatic Alarms and Automatic Shut-off System**

- a. The Permittee must:
  - i. Install, continuously operate, and maintain an automatic alarm and an automatic shut-off system or, at the discretion of the AOGCC, down-hole shut-off systems, or other mechanical devices that provide equivalent protection; and
  - ii. Successfully demonstrate the functionality of the alarm system and shut-off system prior to the AOGCC authorizing injection, and at a minimum of once every twelfth month after the last approved demonstration.
- b. Testing under this Section must involve subjecting the system to simulated failure conditions and must be witnessed by the AOGCC or his or her representative unless the AOGCC authorizes an unwitnessed test in advance. The Permittee must provide notice in an electronic format 30 days prior to running the test and must provide the AOGCC or their representative the opportunity to attend. The test must be documented using either a mechanical or digital device which records the value of the parameter

of interest, or by a service company job record. A final report including any additional interpretation necessary for evaluation of the testing must be submitted in an electronic format within the time period specified in Section H of this Permit.

**7. Precautions to Prevent Well Blowouts**

At all times, the Permittee shall maintain on the well a pressure which will prevent the return of the injection fluid to the surface. The well bore must be filled with a high specific gravity fluid during workovers to maintain a positive (downward) gradient and/or a plug shall be installed which can resist the pressure differential. A blowout preventer must be installed and kept in proper operational condition whenever the wellhead is removed to work on the well. The Permittee shall follow procedures such as those below to assure that a backflow or blowout does not occur:

- a. Limit the temperature and/or corrosivity of the injectate; and
- b. Develop procedures necessary to assure that pressure imbalances do not occur.

**8. Circumstances Under Which Injection Must Cease**

Injection shall cease when any of the following circumstances arises:

- a. Failure of the well to pass a mechanical integrity test;
- b. A loss of mechanical integrity during operation;
- c. The automatic alarm or automatic shut-off system is triggered;
- d. A significant unexpected change in the annulus or injection pressure;
- e. The AOGCC determines that the well lacks mechanical integrity; or
- f. The Permittee is unable to maintain compliance with any permit condition or regulatory requirement and the AOGCC determines that injection should cease.

**9. Approaches for Ceasing Injection**

- a. The Permittee must shut-in the well by gradual reduction in the injection pressure as outlined in Attachment A of this Permit; or
- b. The Permittee must immediately cease injection and shut-in the well as outlined in the 20 AAC 25.1260 Emergency and Remedial Response Plan (Attachment L of this Permit).

**F. MECHANICAL INTEGRITY**

**1. Standards**

Other than during periods of well workover (maintenance) approved by the AOGCC in which the sealed tubing-casing annulus is disassembled for maintenance or corrective procedures, the injection well must have and maintain mechanical integrity consistent with 20 AAC 25.1240 A.C.C. R18-9-J664. To meet these requirements, mechanical integrity tests/demonstrations must be witnessed by the AOGCC or an authorized representative of the AOGCC unless prior approval has been granted by the AOGCC to run an un-witnessed test. In order to conduct testing without an AOGCC representative, the following procedures must be followed.

- a. The Permittee must submit prior notification in an electronic format within the time period specified in Section L(3) of this Permit, including the information that no AOGCC representative is available, and receive permission from the AOGCC to

proceed;

- b. The test must be performed in accordance with the Testing and Monitoring Plan (Attachment H of this Permit) and documented using either a mechanical or digital device that records the value of the parameter of interest; and a final report including any additional interpretation necessary for evaluation of the testing must be submitted in an electronic format within the time period specified in Section H of this Permit.

## 2. Mechanical Integrity Testing

The Permittee shall conduct a casing inspection log and mechanical integrity testing as follows:

- a. Prior to receiving authorization to inject, the Permittee shall perform the following testing to demonstrate internal mechanical integrity pursuant to 20 AAC 25.1220 A.A.C. R18-9-J662:
  - i. A pressure test with liquid or gas; and
  - ii. A casing inspection log; or
  - iii. An alternative approved by the AOGCC that has been approved by the Administrator.
- b. Prior to receiving authorization to inject, the Permittee shall perform the following testing to demonstrate external mechanical integrity pursuant to 20 AAC 25.1220 A.A.C. R18-9-J662:
  - i. A tracer survey such as an oxygen activation log; or
  - ii. A temperature or noise log; or
  - iii. An alternative approved by the AOGCC that has been approved by the Administrator pursuant to requirements at 20 AAC 25.1240 A.A.C. R18-9-J664.
- c. Other than during periods of well workover (maintenance) approved by the AOGCC in which the sealed tubing-casing annulus is disassembled for maintenance or corrective procedures, the Permittee must continuously monitor injection pressure, injection rate, injection volumes; pressure on the annulus between tubing and long string casing; and annulus fluid volume as specified in 20 AAC 25.1240 A.A.C. R18-9-J664.
- d. At least once per year, the Permittee must perform the following testing to demonstrate external mechanical integrity:
  - i. An Administrator-approved tracer survey such as an oxygen- activation log; or
  - ii. A temperature or noise log. The AOGCC may require such tests whenever the well is worked over; or
  - iii. An alternative approved by the AOGCC that has been approved by the Administrator.
- e. After any workover that may compromise the internal mechanical integrity of the well, the well shall be tested by means of a pressure test approved by the AOGCC and the well must pass the test to demonstrate mechanical integrity.
- f. Prior to plugging the well, the Permittee shall demonstrate external mechanical integrity as described in the Injection Well Plugging Plan and that meets the requirements of 20 AAC 25.1300 A.A.C. R18-9-J667.
- g. The AOGCC may require the use of any other tests to demonstrate mechanical

integrity other than those listed above with the written approval of the Administrator pursuant to requirements at 20 AAC 25.1240 A.A.C. R18-9-J664.

**3. Prior Notice and Reporting**

- a. The Permittee shall notify the AOGCC in an electronic format of his or her intent to demonstrate mechanical integrity in an electronic format at least 30 days prior to such demonstration. At the discretion of the AOGCC a shorter time period may be allowed.
- b. Reports of mechanical integrity demonstrations which include logs must include an interpretation of results by a knowledgeable log analyst. The Permittee shall report in an electronic format the results of a mechanical integrity demonstration within the time period specified in Section H of this Permit.

**4. Gauge and Meter Calibration**

The Permittee shall calibrate all gauges used in mechanical integrity demonstrations and other required monitoring to an accuracy of not less than 0.5 percent of full scale, within one year prior to each required test. The date of the most recent calibration shall be noted on or near the gauge or meter. A copy of the calibration certificate shall be submitted to the AOGCC in an electronic format with the report of the test.

Pressure gauge resolution shall be no greater than five psi. Certain mechanical integrity and other testing may require greater accuracy and shall be identified in the procedure submitted to the AOGCC prior to the test.

**5. Loss of Mechanical Integrity**

- a. If the Permittee or the AOGCC finds that the well fails to demonstrate mechanical integrity during a test, or fails to maintain mechanical integrity during operation, or that a loss of mechanical integrity as defined by 20 AAC 25.1240 A.A.C. R18-9-J664 is suspected during operation (such as a significant unexpected change in the annulus or injection pressure), the Permittee must:
  - i. Cease injection in accordance with Attachments A or L of this Permit;
  - ii. Take all steps reasonably necessary to determine whether there may have been a release of the injected CO<sub>2</sub> stream or formation fluids into any unauthorized zone. If there is evidence of USDW endangerment, implement the Emergency and Remedial Response Plan (Attachment L of this Permit);
  - iii. Follow the reporting requirements as directed in Section H of this Permit;
  - iv. Restore and demonstrate mechanical integrity to the satisfaction of the AOGCC and receive written approval from the AOGCC prior to resuming injection; and
  - v. Notify the AOGCC in an electronic format when injection can be expected to resume.
- b. If a shutdown (i.e., down-hole or at the surface) is triggered, the Permittee must immediately investigate and identify as expeditiously as possible the cause of the shutdown. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required indicates that the well may be lacking mechanical integrity, the Permittee must take the actions listed above in Section F(5)(a)(i) through (v).

- c. If the well loses mechanical integrity prior to the next scheduled test date, then the well must either be plugged or repaired and retested within 30 days of losing mechanical integrity. The Permittee shall not resume injection until mechanical integrity is demonstrated and the AOGCC gives written approval to recommence injection in cases where the well has lost mechanical integrity.

**6. Mechanical Integrity Testing on Request from AOGCC**

The Permittee shall demonstrate mechanical integrity at any time upon written notice from the AOGCC.

**G. TESTING AND MONITORING**

**1. Testing and Monitoring Plan**

- a. The Permittee shall maintain and comply with the approved Testing and Monitoring Plan (Attachment H of this Permit) and with the requirements in A.A.C. R18-9-D635, 20 AAC 25.1230 A.A.C. R18-9-J663, and 20 AAC 25.1250 A.A.C. R18-9-J665. The Testing and Monitoring Plan is an enforceable condition of this Permit. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Procedures for all testing and monitoring under this Permit must be submitted to the AOGCC in an electronic format for approval at least 30 days prior to the test. In performing all testing and monitoring under this Permit, the Permittee must follow the procedures approved by the AOGCC. If the Permittee is unable to follow the AOGCC approved procedures, then, the Permittee must contact the AOGCC at least 30 days prior to testing to discuss options, if any are feasible. When the test report is submitted, a full explanation must be provided as to why any approved procedures were not followed. If the approved procedures were not followed, AOGCC may take an appropriate action, including but not limited to, requiring the Permittee to re-run the test.
- b. The Permittee must update the Testing and Monitoring Plan as required at 20 AAC 25.1250 A.A.C. R18-9-J665 to incorporate monitoring and operational data and in response to AOR reevaluations required under Section D of this Permit or demonstrate to the AOGCC that no update is needed. The amended Testing and Monitoring Plan or demonstration shall be submitted to the AOGCC in an electronic format within one year of an AOR reevaluation; following any significant changes to the facility such as addition of monitoring wells or newly permitted injection wells within the AOR; or when required by the AOGCC.
- c. Following each update of the Testing and Monitoring Plan or a demonstration that no update is needed, the Permittee shall submit the resultant information in an electronic format to the AOGCC for review and approval of the results. Once approved by the AOGCC, the revised Testing and Monitoring Plan will become an enforceable condition of this Permit.

**2. Carbon Dioxide Stream Analysis**

The Permittee shall analyze the CO<sub>2</sub> stream with sufficient frequency to yield data representative of its chemical and physical characteristics, as described in the Testing and Monitoring Plan and to meet the requirements of 20 AAC 25.1250(a)(1) A.A.C. R18-9-J665(A)(1).

**3. Continuous Monitoring**

The Permittee shall maintain continuous monitoring devices and use them to monitor injection pressure, flow rate, volume, the pressure on the annulus between the tubing and the long string of casing, annulus fluid level, and temperature. This monitoring shall be performed as described in the Testing and Monitoring Plan to meet the requirements of 20 AAC 25.1250(a)(2) A.A.C. R18-9-J665(A)(2). The Permittee shall maintain for AOGCC's inspection at the facility an appropriately scaled, continuous record of these monitoring results as well as original files of any digitally recorded information pertaining to these operations.

**4. Corrosion Monitoring**

The Permittee shall perform corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion on a quarterly basis using the procedures described in the Testing and Monitoring Plan and in accordance with 20 AAC 25.1250(a)(3) A.A.C. R18-9-J665(A)(3) to ensure that the well components meet the minimum standards for material strength and performance set forth in 20 AAC 25.1210 A.A.C. R18-9-J661.

**5. Groundwater Quality Monitoring**

The Permittee shall monitor ground water quality and geochemical changes above the confining zone(s) that may be a result of CO<sub>2</sub> movement through the confining zone(s) or additional identified zones. This monitoring shall be performed for the parameters identified in the Testing and Monitoring Plan at the locations and depths, and at frequencies described in the Testing and Monitoring Plan to meet the requirements of 20 AAC 25.1250 A.A.C. R18-9-J665(A)(4).

**6. External Mechanical Integrity Testing**

The Permittee shall demonstrate external mechanical integrity as described in the Testing and Monitoring Plan to meet the requirements of 20 AAC 25.1250(a)(5) A.A.C. R18-9-J665(A)(5).

**7. Pressure Fall-Off Test**

The Permittee shall conduct a pressure fall-off test at least once every five years unless more frequent testing is required by the AOGCC based on site-specific information. The test shall be performed as described in the Testing and Monitoring Plan to meet the requirements of 20 AAC 25.1250(a)(6) A.A.C. R18-9-J665(A)(6).

**8. Plume and Pressure Front Tracking**

The Permittee shall track the extent of the CO<sub>2</sub> plume and the presence or absence of elevated pressure (e.g., the pressure front) as described in the Testing and Monitoring Plan.

- a. The Permittee shall use direct methods to track the position of the CO<sub>2</sub> plume and the pressure front in the injection zone as described in the Testing and Monitoring Plan and to meet the requirements of 20 AAC 25.1250(a)(7)(A) A.A.C. R18-9- J665(A)(7)(a).
- b. The Permittee shall use indirect methods to track the position of the CO<sub>2</sub> plume and

pressure front as described in the Testing and Monitoring Plan and to meet the requirements of 20 AAC 25.1250(a)(7)(B) A.A.C. R18-9-J665(A)(7)(b).

**9. Surface Air and/or Soil Gas Monitoring**

The Permittee shall conduct any surface air monitoring and/or soil gas monitoring required by the AOGCC to detect movement of CO<sub>2</sub> that could endanger a USDW at the frequency and locations described in the Testing and Monitoring Plan to meet the requirements of 20 AAC 25.1250 A.A.C. R18-9-J665.

**10. Additional Monitoring**

If required by the AOGCC as provided in 20 AAC 25.1250 A.A.C. R18-9-J665, the Permittee shall perform any additional monitoring determined to be necessary to support, upgrade, and improve computational modeling of the AOR evaluation required under 20 AAC 25.1070 A.A.C. R18-9-J659 and to determine compliance with standards under 20 AAC 25.1070 A.A.C. R18-9-B608 or 20 AAC 25.1210 A.A.C. R18-9-J661. This monitoring shall be performed as described in a modification to the Testing and Monitoring Plan.

**H. REPORTING AND RECORDKEEPING**

**1. Electronic Reporting**

Electronic reports, submittals, notifications and records made and maintained by the Permittee under this Permit must be in an electronic format approved by the AOGCC. The Permittee shall electronically submit all required reports to the AOGCC.

**2. Semi-Annual Reports**

The Permittee shall submit semi-annual reports containing:

- a. Any changes to the physical, chemical, and other relevant characteristics of the CO<sub>2</sub> stream from the proposed operating data;
- b. Monthly average, maximum, and minimum values for injection pressure, flow rate and daily volume, temperature, and annular pressure;
- c. A description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;
- d. A description of any event which triggers the shut-off systems required in Section (E)(6) of this Permit pursuant to 20 AAC 25.1230(e) A.A.C. R18-9-J663(E) and the response taken;
- e. The monthly volume and/or mass of the CO<sub>2</sub> stream injected over the reporting period and the volume and/or mass injected cumulatively over the life of the project;
- f. Monthly annulus fluid volume added; and
- g. Results of the monitoring prescribed under 20 AAC 25.1250 A.A.C. R18-9-J665.

**3. 24-Hour Reporting**

The Permittee shall report to AOGCC any non-compliance which may endanger health or the environment and/or any events that require implementation of actions in the Emergency and Remedial Response Plan (Attachment L of this Permit). The following information shall be provided orally within 24 hours from the time the Permittee becomes aware of the

circumstances.

- a. Any evidence that the injected CO<sub>2</sub> stream or associated pressure front may cause an endangerment to a USDW;
- b. Any non-compliance with a permit condition, malfunction of the injection system, or loss of mechanical integrity, which may cause fluid migration into or between USDWs;
- c. Any triggering of a shut-off system (i.e., down-hole or at the surface);
- d. Any failure to maintain mechanical integrity; or
- e. Pursuant to compliance with the requirement in 20 AAC 25.1250(a)(8) A.A.C. R18-9-J665(A)(8) for surface air/soil gas monitoring or other monitoring technologies, if required by AOGCC, any release of CO<sub>2</sub> to the atmosphere or biosphere.

#### **4. Reports on Well Tests and Workovers**

Report, within 30 days, the results of:

- a. Periodic tests of mechanical integrity;
- b. Any well workover, including simulation;
- c. Any other test of the injection well conducted by the Permittee if required by the AOGCC; and
- d. Any test of any monitoring well required by this Permit.

#### **5. Records**

- a. The Permittee shall retain records and all monitoring information, including all calibration and maintenance records and all original chart recordings for continuous monitoring instrumentation and copies of all reports required by this Permit (including records from pre-injection, active injection, and post-injection phases) for a period of at least 10 years from collection. Monitoring records shall include: the date, exact place, and time of sampling or measurements; The name(s) of the individual(s) who performed the sampling or measurements; A precise description of both sampling methodology and the handling of samples; The date(s) analyses were performed; The name(s) of the individual(s) who performed the analyses; The analytical techniques or methods used; and the results of such analyses.
- b. All data collected under 20 AAC 25.1080 A.A.C. R18-9-J657 and any supplemental information (e.g. modeling inputs for AOR delineations and reevaluations, plan modifications) shall be maintained for a period of at least 10 years after site closure.
- c. The Permittee shall retain records concerning the nature and composition of all injected fluids until 10 years after site closure.
- d. 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 20 AAC 25.1320(e) and (g) A.A.C. R18-9-J668(F) and (H) shall be retained for ten years after site closure.
- e. The retention periods specified in Section H(5)(a) through (d) of this Permit may be extended by request of the AOGCC at any time. The Permittee shall continue to retain records after the retention period specified in Section H(5)(a) through (d) of this Permit or any requested extension thereof expires unless the Permittee delivers the records to the AOGCC or obtains written approval from the AOGCC to discard the records.

**I. INJECTION WELL PLUGGING**

**1. Prior to Well Plugging**

Prior to plugging, the owner or operator must flush each Class VI injection well with a buffer fluid, determine bottom hole pressure, and perform a final mechanical integrity test.

**2. Well Plugging Plan**

The Permittee shall maintain and comply with the approved Well Plugging Plan (Attachment I of this Permit) which is an enforceable condition of this Permit.

**3. Revision of Well Plugging Plan**

If the permittee finds it necessary to change the Well Plugging Plan, a revised plan shall be submitted in an electronic format to the AOGCC for written approval. Any amendments to the Well Plugging Plan must be approved by the AOGCC and must be incorporated into the permit, and are subject to the permit.

**4. Notice of Plugging**

The Permittee must notify the AOGCC in writing in an electronic format at least sixty (60) days before plugging of a well. At the discretion of the AOGCC, a shorter notice period may be allowed.

**5. Plugging and Abandonment Approval and Report**

a. The permittee must receive written approval of the AOGCC before plugging the well and shall plug and abandon the well in accordance with 20 AAC 25.1300 R18-9-667, as provided in the Well Plugging Plan (Attachment I of this permit).

b. Within sixty (60) days after plugging, the permittee must submit in an electronic format a plugging report to the AOGCC. The report must be certified as accurate by the permittee and by the person who performed the plugging operation (if other than the permittee.) The permittee shall retain the well plugging report in an electronic format for 10 years following site closure. The report must include:

- i. A statement that the well was plugged in accordance with the Well Plugging Plan previously approved by the AOGCC (Attachment I of this permit); or
- ii. If the actual plugging differed from the approved plan, a statement describing the actual plugging and an updated plan specifying the differences from the plan previously submitted and explaining why the AOGCC should approve such deviation. If the AOGCC determines that a deviation from the plan incorporated in this permit may endanger underground sources of drinking water, the permittee shall replug the well as required by the AOGCC.

**6. Temporary Abandonment**

In accordance with R18-9-D636, the permittee shall continue to comply with the conditions of this permit, including all monitoring and reporting requirements according

to the frequencies outlined in the permit. The well shall also be tested to ensure that it maintains mechanical integrity, according to the requirements and frequency specified in Section F(2) of this permit.

## **J. POST-INJECTION SITE CARE AND CLOSURE**

### **1. Post-Injection Site Care and Site Closure Plan**

The Permittee shall maintain and comply with the Post-Injection Site Care and Site Closure Plan, found as Attachment M of this Permit. The permittee shall:

- a. Upon cessation of injection and in response to AoR reevaluations required under Section II(D) of this permit, either submit in an electronic format for the AOGCC's approval an amended Post-Injection Site Care and Site Closure Plan or demonstrate through monitoring data and modeling results that no amendment to the plan is needed.
- b. At any time during the life of the project, the permittee may modify and resubmit in an electronic format the Post-Injection Site Care and Site Closure Plan for the AOGCC's approval. The permittee may, as part of such modifications to the Plan, request a modification to the post-injection site care timeframe that includes documentation of the information pursuant to the requirements in 20 AAC 25.1310(h) A.A.C R18-9-J668(C)(1).

### **2. Carbon Dioxide Plume and Pressure Front Monitoring**

The Permittee shall monitor the site following the cessation of injection to show the position of the CO<sub>2</sub> plume and pressure front and demonstrate that USDWs are not being endangered, as specified in the Post-Injection Site Care and Site Closure Plan pursuant to the requirements in 20 AAC 25.1310(f) A.A.C. R18-9-J668(B). The Permittee shall continue to conduct post-injection site monitoring for at least 50 years or for the duration of any alternative timeframe approved by the AOGCC, including:

- a. Ground water quality monitoring;
- b. Tracking the position of the carbon dioxide plume and pressure front including direct pressure monitoring and geochemical plume monitoring and the use of indirect methods;
- c. Internal and external MITs of wells used for post-injection monitoring;
- d. Any other required monitoring, e.g., soil gas and/or surface air monitoring described in the Post-Injection Site Care and Site Closure Plan;
- e. The permittee shall submit in an electronic format the results of all monitoring performed according to the schedule identified in the Post-Injection Site Care and Site Closure Plan; and
- f. The permittee shall continue to conduct post-injection site monitoring for the duration of the alternative timeframe approved pursuant to 20 AAC 25.1310(h) A.A.C. R18-9-J668(C) and the Post-Injection Site Care and Site Closure Plan and until the AOGCC has authorized site closure.
- g. The post-injection monitoring must continue until the project no longer poses an endangerment to USDWs and the demonstration pursuant to 20 AAC 25.1310(f) A.A.C. R18- 9-J668(B)(1) and is approved by the AOGCC in accordance with 20 AAC 25.1310(g) A.A.C. R18- 9-J668(B)(3).

Prior to authorization for site closure, the Permittee shall submit to the AOGCC for review and approval a demonstration based on monitoring and other site-specific data, that no additional monitoring is needed to ensure the geologic sequestration project does not pose an endangerment to USDWs. The AOGCC reserves the right to amend the post- injection site monitoring requirements (including extend the monitoring period) if the CO2 plume and the associated pressure front have not stabilized or there is a concern that USDWs are being endangered.

**3. Notification and Well Plugging**

The Permittee shall notify the AOGCC in an electronic format at least 120 days before site closure. At this time, if any changes to the approved Post-Injection Site Care and Site Closure Plan in Attachment M of this Permit are proposed, the Permittee shall submit a revised plan.

After the AOGCC has authorized site closure, the Permittee shall plug all monitoring in a manner which will not allow movement of injection or formation fluids that endangers a USDW. The Permittee shall also restore the site to its pre- injection condition.

**4. Site Closure Report and Recordkeeping**

The Permittee shall submit a site closure report in an electronic format to the AOGCC within 90 days of site closure. The report must include the information specified in 20 AAC 25.1310(f) A.A.C. R18-9-J668(F).

The Permittee shall record a notation on the deed to the facility property or any other document that is normally examined during a title search that will in perpetuity provide any potential purchaser of the property the information listed 20 AAC 25.1320(f) A.A.C. R18-9- J668(G).

The Permittee shall retain for 10 years following site closure an electronic copy of the records collected during the post-injection site care period. The Permittee shall deliver the records in an electronic format to the AOGCC at the conclusion of the retention period, and the records must thereafter be retained at a location designated by the AOGCC for that purpose.

**K. EMERGENCY AND REMEDIAL RESPONSE**

The Emergency and Remedial Response Plan describes actions the Permittee 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 Permittee shall maintain and comply with the approved Emergency and Remedial Response Plan (Attachment L of this Permit), which is an enforceable condition of this Permit.

If the Permittee obtains evidence that the injected CO2 and/or associated pressure front may cause endangerment to a USDW, the Permittee must:

1. Immediately cease injection;
2. Take all steps reasonably necessary to identify and characterize any release;

3. Notify the AOGCC within 24 hours; and
4. Implement the Emergency and Remedial Response Plan.  
At the frequency specified in the Area of Review and Corrective Action Plan, or more frequently when monitoring and operational conditions warrant, but not less often than once every five years, the Permittee shall review and update the Emergency and Remedial Response Plan or demonstrate to the AOGCC that no update is needed. The amended Emergency and Remedial Response Plan or demonstration shall be submitted to the AOGCC in an electronic format within one year of an AOR reevaluation; following any significant changes to the facility such as addition of injection wells; or when required by the AOGCC.

## L. FINANCIAL ASSURANCE REQUIREMENTS

### 1. Demonstration of Financial Responsibility

The Permittee shall maintain financial responsibility and resources to meet the conditions of this Permit and address endangerment of USDWs. Financial responsibility shall be maintained through all phases of the project using one or more of the qualifying instruments listed in 20 AAC 25.1200(a) A.A.C. R18-9-J660(A)(1) and approved by the AOGCC. The financial assurance mechanism is found in Attachment J of this Permit.

The financial instrument(s) must be sufficient to cover the cost of:

- a. Corrective action under 20 AAC 25.1070 A.A.C. R18-9-J659;
- b. Injection well plugging under 20 AAC 25.1300 A.A.C. R18-9-J667;
- c. Post injection site care and site closure under 20 AAC 25.1310 A.A.C. R18-9-J668; and
- d. Emergency and remedial response under 20 AAC 25.1260 A.A.C. R18-9-J669.

Authority to construct, inject, and operate the wells under the authority of this Permit will be granted only after the financial instrument has been secured and approved by the AOGCC. The Permittee shall post an approved financial instrument in the amount of [SPECIFY \$ AMOUNT PLUS CONTINGENCY] for all the phases of the geologic sequestration project prior to issue a Class VI permit.

### 2. Cost Estimate Updates

During the active life of the geologic sequestration project, the Permittee must adjust the cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s) and provide this adjustment to the AOGCC in an electronic format. The Permittee must also provide to the AOGCC written updates of adjustments to the cost estimate within sixty (60) days of any amendments to the Area of Review and Corrective Action Plan, Injection Well Plugging Plan, Post-Injection Site Care and Site Closure Plan, and Emergency and Remedial Response Plan included in this Permit.

### 3. Notification

- a. Whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the Permittee, within sixty (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 AOGCC, 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 Permittee has received written approval from the AOGCC.

- b. The Permittee must notify the AOGCC by certified mail and in an electronic format of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging, post-injection site care and site closure, and any applicable ongoing actions under Corrective Action and/or Emergency and Remedial Response.
  - i. In the event that the Permittee or the third-party provider of a financial responsibility instrument is going through a bankruptcy, the Permittee must notify the AOGCC by certified mail and in an electronic format of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the Permittee as debtor, within 10 days after commencement of the proceeding.
  - ii. A guarantor of a corporate guarantee must make such a notification if he or she is named as debtor, as required under the terms of the guarantee.
  - iii. A Permittee who fulfills the requirements of paragraph 1 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.

#### **4. Establishing Other Coverage**

The Permittee must establish other financial assurance or liability coverage acceptable to the AOGCC, within sixty (60) days of the occurrence of the events in Section L(2) or L(3) of this Permit.

#### **M. DURATION OF PERMIT**

This Permit and the authorization to inject are issued for a period of [SPECIFY DURATION] years unless terminated under the conditions set forth in Part III.B.1. or administratively extended under the conditions set forth in Part III.E.11.

### **PART III. GENERAL PERMIT CONDITIONS.**

#### **A. EFFECT OF PERMIT**

The Permittee is allowed to engage in underground injection well construction and operation in accordance with the conditions of this Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant (as defined by 20 AAC 25.1900(15)) A.A.C. R18-9-A601) into USDWs (as defined 20 AAC 25.990 A.A.C R18-9-A601).

Any underground injection activity not specifically authorized in this Permit is prohibited. The Permittee must comply with all applicable provisions of 20 AAC 25 18 A.A.C. 9, Article 6. Such compliance does not constitute a defense to any action brought under Section 1431 of the SDWA, 42 U.S.C. §300(i), or any other common law, statute, or

regulation other than Part C of the SDWA. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege, nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Nothing in this Permit shall be construed to relieve the Permittee of any duties under all applicable laws and regulations.

**B. PERMIT ACTIONS**

**1. Modification, Revocation and Reissuance, or Termination**

AOGCC may, for cause or upon request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 20 AAC 25.1410 and 20 AAC 25.1420 A.A.C. R18-9-C631, C632, and C634. The permit is also subject to minor modifications for causes as specified in 20 AAC 25.1430 A.A.C. R18-9-C633. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated non-compliance by the Permittee, does not stay the applicability or enforceability of any permit condition. AOGCC may also modify, revoke and reissue, or terminate this Permit in accordance with any amendments to the SDWA if the amendments have applicability to this Permit.

**2. Minor Modifications**

Upon the consent of the permittee, the AOGCC may modify a permit to make the corrections or allowances for minor changes in the permitted activity as listed in 20 AAC 25.1430 R18-9-C633. Any permit modification not processed as a minor modification under 20 AAC 25.1430 R18-9-C633 must be made for cause, and with a draft permit and public notice as required in 20 AAC 25.1410 R18-9-C632.

**3. Transfers**

This Permit is not transferable to any person unless notice is first provided to AOGCC and the Permittee complies with requirements of 20 AAC 25.1400 A.A.C. R18-9-C630. AOGCC 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 SDWA.

**C. SEVERABILITY**

The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

**D. CONFIDENTIALITY**

In accordance with 20 AAC 25.1600 A.A.C. R18-9-A603, any information submitted to AOGCC pursuant to this Permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the

time of submission, AOGCC may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures contained in Alaska Public Records Act, AS 40.25100 - AS 40.25.295 A.R.S. § 49-205 (Public Information). Claims of confidentiality for the following information will be denied:

1. Name and address of the Permittee, or
2. Information dealing with the existence, absence, or level of contaminants in drinking water.

**E. GENERAL DUTIES AND REQUIREMENTS**

**1. Duty to Comply**

The Permittee shall comply with all applicable UIC Program regulations and conditions of this Permit, except to the extent and for the duration such non-compliance is authorized by an emergency permit issued in accordance with A.A.C. R18-9-C625. Any permit non-compliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. Such non-compliance may also be grounds for enforcement action under the Resource Conservation and Recovery Act (RCRA).

**2. Definitions**

All terms used in this permit shall have the meaning set forth in 20 AAC 25.990 and 20 AAC 25.1900 A.A.C. R18-9-A601 and Underground Injection Control regulations specified at 20 AAC 25. A.A.C., Title 18, Chapter 9, Article 6. Unless specifically stated otherwise, all references to “days” in this permit should be interpreted as calendar days.

**3. Penalties for Violations of Permit Conditions**

Any person who violates a permit requirement is subject to civil penalties, fines, and other enforcement action under the SDWA and 20 AAC 25.535 and may also be subject to enforcement actions pursuant to RCRA. Any person who willfully violates permit conditions may be subject to criminal prosecution.

**4. Need to Halt or Reduce Activity not a Defense 20 AAC 25.1120(c)**

It shall not be a defense, for the Permittee in an enforcement action, that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this Permit.

**5. Duty to Mitigate 20 AAC 25.1120(d)**

The Permittee shall take all reasonable steps to minimize and correct any adverse impact on the environment resulting from non-compliance with this Permit.

**6. Proper Operation and Maintenance 20 AAC 25.1120(e)**

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 responsibility requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. A storage operator shall give notice to the AOGCC as soon as possible of any planned physical alterations or additions to the storage facility.

**7. Property Rights 20 AAC 25.1120(g)**

Except as provided by AS 41.06.165; the storage facility permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

**8. Duty to Provide Information 20 AAC 25.1120(h)**

The Permittee shall furnish to AOGCC, within a time specified, any information which AOGCC 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 AOGCC, upon request, copies of records required to be kept by this Permit pursuant to A.A.C. R18-9-D635(A)(8).

**9. Inspection and Entry 20 AAC 25.1120(i)**

The storage operator shall allow the AOGCC or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- (1) enter the storage facility premises where the regulated facility or activity is located or conducted or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (3) inspect at reasonable times, any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under the permit; and
- (4) sample or monitor at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by the Safe Drinking Water Act, any substance or parameters at any location. The Permittee shall allow AOGCC, or an authorized representative, upon the presentation of credentials and other documents as may be required pursuant to A.A.C. R18-9-D635(A)(9) to:
  - a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Permit;
  - b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this Permit;
  - c. Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
  - d. 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.

**10. Signatory Requirements**

All applications, reports, or other information submitted to AOGCC shall be signed and certified by a responsible corporate officer or duly authorized representative according to 20 AAC 25.1030(e), 40 C.F.R. 144.32(b), and 20 AAC 25.1030(g) A.A.C. R18-9-C617.

**11. Additional Reporting Requirements**

- a. Planned Changes - The Permittee shall give notice to AOGCC as soon as possible of any planned physical alterations or additions to the permitted facility affecting any of the terms and conditions of the permit.
- b. Anticipated non-compliance 20 AAC 25.1120(a)- The storage operator shall give advance notice to the AOGCC of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The Permittee shall give advance notice to AOGCC of any planned changes in the permitted facility or activity which may result in non-compliance with permit requirements.
- c. Compliance Schedules 20 AAC 25.1140 –
  - (a) As required by the AOGCC on a case-by-case basis, the storage operator shall submit to the AOGCC identified actions to be taken to achieve full compliance with the requirements of a storage facility permit and associated Class VI well. A schedule of compliance must require compliance as soon as possible, and in no case later than three years after the date of the storage facility permit under 20 AAC 25.1170. If the permit establishes a schedule of compliance that exceeds one year from the date of the storage facility permit under 20 AAC 25.1170, the schedule of compliance must set forth interim requirements and dates for completion; the time between interim dates must not exceed one year. If the time necessary for completion of any interim requirement is more than one year, and is not readily divisible into stages for completion, the storage facility permit must specify interim dates for the submission of reports of progress toward completion of the interim requirements and shall indicate a project completion date. The permit must require that, if the AOGCC requires a schedule of compliance, the storage operator shall submit a progress report to the AOGCC not later than 30 days after each interim date and the final date of completion.
  - (b) A storage operator shall report any noncompliance which may endanger health or the environment, including:
    - (1) any monitoring or other information which indicates that any contaminant may endanger underground sources of drinking water;
    - (2) any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.
  - (c) A storage operator shall orally report noncompliance covered by (b) of this section to the AOGCC within 24 hours from the time the storage operator becomes aware of the noncompliance. A storage operator shall provide a written submission to the AOGCC within 5 days of the time the storage operator

- becomes aware of the non-compliance, including
- (1) a description of the noncompliance and its cause;
  - (2) the period of noncompliance, including exact dates and times,
  - (3) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
  - (4) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- (d) For noncompliance not covered by (b) of this section, the storage operator shall report all instances of noncompliance not reported in (c) of this section, at the time monitoring reports required by 20 AAC 25.1250 and 20 AAC 25.1610 are submitted. The reports must contain the information listed in paragraph (c) of this section,
- (e) When a storage operator becomes aware that the storage operator failed to submit any relevant facts in a storage facility permit application, or submitted incorrect information in a storage facility permit application or in any report to the AOGCC, the storage operator shall promptly submit such facts or information to the AOGCC.
- d. Reports of compliance or non-compliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted to AOGCC no later than thirty (30) days following each schedule date.
  - e. A written submission of all non-compliance shall also be provided to AOGCC within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain: a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times; if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.
  - f. Other non-compliance - At the time monitoring reports are submitted, the Permittee shall report in writing all other instances of non-compliance not otherwise reported.
  - g. Other Information - If the Permittee becomes aware that it failed to submit all relevant facts in the permit application or submitted incorrect information in the permit application or in any report to AOGCC, the Permittee shall submit such facts or information within two (2) weeks of the time such facts or information becomes known.

## **12. Duration; Storage Facility Permit Continuation of Expiring Permit**

- a. Upon approval of a storage facility permit, the AOGCC will issue the permit for the operating life of the facility and the post-injection site care period specified in the permit. The AOGCC will review each storage facility permit, including each associated Class VI well permit, not less than once every five years to determine if it should be modified, revoked and reissued, terminated, or a minor modification made as provided in this chapter. The term of a permit may not be extended by modification beyond the maximum duration specified in this subsection except as provided in (d) of this section.
- b. The AOGCC may issue a storage facility permit for a duration that is less than the full allowable term under (a) of this section.
- c. A storage facility permit, including a Class VI well permit and authorization to inject for a Class VI well, may only be transferred, modified, revoked and reissued, terminated, or a minor modification made as provided in 20 AAC 25.1410 or, 20 AAC 25.1430, as applicable.

- d. The conditions of an expired storage facility permit may continue until the effective date of a new permit if the storage operator has submitted a timely and complete application under 20 AAC 25.1080, and the AOGCC, through no fault of the storage operator, does not issue a new permit with an effective date on or before the expiration date of the previous permit. A permit continued under this subsection remains fully effective and enforceable. When a storage operator is not in compliance with the terms of an expiring or expired storage facility permit, the AOGCC may
- (1) initiate enforcement action, including civil penalties under AS 41.06.180;
  - (2) issue a notice of intent to deny the new permit; in the event of a notice of intent to deny, the storage operator must cease activities authorized by the permit, except for approved well plugging and abandonment under 20 AAC 25.1300, or be subject to enforcement action;
  - (3) issue a new permit consistent with the requirements and process of 20 AAC 25.1410; or
  - (4) take other actions authorized by AS 41.06.110 or 20 AAC 25.
- e. Duty to Reapply - If AOGCC requires the Permittee to continue an activity regulated by this Permit past the expiration date of this Permit, the Permittee must submit a complete application for a new permit at least one hundred and eighty (180) days before this Permit expires.
- f. Permit Extensions – 20 AAC 25.1160(d) The conditions and requirements of an expired permit continue in force and effect in accordance with 5 U.S.C. §558(c) until the effective date of a new permit, if:
- i. The Permittee has submitted a timely and complete application for a new permit; and
  - ii. AOGCC, through no fault of the Permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit.

**Appendix A-3 Aquifer Exemption Checklist**

DRAFT

# Aquifer Exemption Checklist

Reviewed by: \_\_\_\_\_ Date \_\_\_\_\_

## A- Regulatory Background and Purpose

An aquifer or a portion thereof which meets the criteria for an "underground source of drinking water" in § 146.3 may be determined to be an "exempted aquifer". The aquifer exemption criteria at 146.4 must be met as follows:

- Class I-V wells must meet criteria **146.4(a) and 146.4(b)(1)**; or **146.4(a) and 146.4(b)(2)**; or **146.4(a) and 146.4(b)(3)**; or **146.4(a) and 146.4(b)(4)**; or **146.4(a) and 146.4(c)**.
- Class VI wells must meet the criteria **146.4(d)**<sup>1</sup>.

Regardless of the AE request or the type of injection activity, in all cases, first and foremost a demonstration that the aquifer or portion thereof does not currently serve as a source of drinking water is the required first step in the process. **EPA must evaluate each AE request to ensure the criteria are met prior to approval. EPA should also document its rationale for approving or disapproving each AE request in its statement of basis and, in case of exemptions that are substantial program revisions, EPA must provide public notice and an opportunity for the public to comment and request a public hearing.**

The purpose of this checklist is to ensure that appropriate and adequate information is collected to facilitate review of AE requests, and documentation of AE decisions. Some information described here may not apply to all AE requests.

## B- General Information

AE request received by EPA on \_\_\_\_\_

Is the aquifer exemption Substantial \_\_\_\_\_ Non-Substantial \_\_\_\_\_

Describe basis for substantial/non-substantial determination \_\_\_\_\_

Is the aquifer exemption Complex? (Existence of drinking water wells, populated area ...) \_\_\_\_\_

Did the state or tribe provide public notice and opportunity for public hearing on the aquifer exemption request (144.7 (b)) Y/N \_\_\_\_\_

Were there any public comments? Y/N If yes, identify where they may be located \_\_\_\_\_

Date(s) of notice(s) published \_\_\_\_\_, Public meeting(s) held \_\_\_\_\_, Hearing held \_\_\_\_\_, any notable findings or pending litigation \_\_\_\_\_

Describe the notice and comment process and the final decision \_\_\_\_\_

Describe the basis for the decision to exempt the aquifer or the basis for the decision to withhold or deny approval of the exemptions request \_\_\_\_\_

Any anticipated issues associated with EPA approval or disapproval of the AE request

Y/N \_\_\_\_\_

Any meetings between EPA/States/Tribes/Operator to discuss issues Y/N list \_\_\_\_\_

Is the request submitted by a primacy state or tribe? Y/N If yes name the State/Tribe/Agency

Contact: \_\_\_\_\_

AE identified by the Primacy State or tribe and submitted for EPA review and final determination on \_\_\_\_\_

Name of the Owner/operator \_\_\_\_\_

Well/Project Name: \_\_\_\_\_ Well Class \_\_\_\_\_

Purpose of injection: \_\_\_\_\_ (mineral mining/oil and gas/other)

Where is the proposed aquifer exemption located? Township, Section, Range, Quarter Section or other method used to identify the area \_\_\_\_\_ Latitude and longitude information \_\_\_\_\_ County \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ Add information about distance to nearest Town, County \_\_\_\_\_

Name of aquifer or portion of aquifer to be exempted \_\_\_\_\_

<sup>1</sup> Additional Class VI only requirements in 40 CFR 144.7(d)(1) and (2) apply. This checklist does not address those requirements.

Areal extent of the area proposed for exemption \_\_\_\_\_

Depth and thickness of the aquifer \_\_\_\_\_

Discuss the total dissolved solid (TDS) content of the aquifer, including the TDS at the top and bottom of the exempted zone, and the locations and depths of all fluids samples taken. \_\_\_\_\_

**C- Regulatory Criteria**

An aquifer or a portion thereof may be determined to be an exempted aquifer for Class I-V wells if it meets the criteria in paragraphs (a) –(c) below. Other than EPA approved aquifer exemption expansions that meet the criteria set forth in 146.4(d), new aquifer exemptions for Class VI wells shall not be issued.

**146.4: ( ) (a) Not currently used as a drinking water source and:**

( ) **(b)(1)** 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 Class II operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible; or

( ) **(b)(2)** It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical; or

( ) **(b)(3)** It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or

( ) **(b)(4)** It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or

( ) **(c)** TDS is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

( ) **(d)** *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) if it does not currently serve as a source of drinking water; and the TDS is more than 3,000 mg/l and less than 10,000 mg/l; and it is not reasonably expected to supply a public water system.*

**1- Demonstration that the aquifer or portion thereof does not currently serve as a source of drinking water per 146.4(a)**

Describe the proposed exempted area and how it was determined: \_\_\_\_\_

TDS: \_\_\_\_\_ Top: \_\_\_\_\_ Bottom: \_\_\_\_\_

Lithology: \_\_\_\_\_

Permeability: \_\_\_\_\_ Porosity: \_\_\_\_\_ Groundwater flow direction: \_\_\_\_\_

Upper and Lower Confining Zone(s) and description of vertical confinement from USDWs: \_\_\_\_\_

Oil or mineral production history: \_\_\_\_\_

**Are there any public or private drinking water wells within and nearby the proposed exempted area for which the proposed exempted portion of the aquifer might be a source of drinking water Y/N if yes, list all those wells**

- **Include:** pertinent map(s) visually showing the areal extent of exemption boundary, depth and thickness of the aquifer proposed for exemption, all known subsurface structures such as faults affecting the aquifer, and each of the inventoried water well locations by well # or owner name.
- **Include:** Table of all inventoried water wells showing: Well Name/#, Owner, (Private/Public), Contact information, Purpose of well (Domestic, Irrigation, Livestock, etc.), depth of source water, name of aquifer, well completion data, age of well (if known), and the primary source of well data (Applicant/State/Tribe/EPA).
- **Include:** Map showing the areal extent of exemption boundary, all domestic water wells considered potentially down gradient of the exemption and hydraulically connected to the exemption. If wells are deemed horizontally and/or vertically isolated from the exemption, this should be foot noted on the Table as well. Use arrow(s) to indicate the direction and speed of GW in the aquifer proposed for exemption.

- Describe the evidence presented in the application and/or methodology used to conclude GW direction and speed when relevant.
- **Include:** any source water assessment and/or protection areas and designated sole source aquifers located within the delineated area.

**What is the appropriate area to examine for drinking water wells? Although guidance 34 says it should be a minimum of 1/4 mile, the determination of the appropriate area is on a case by case basis. Describe area and give a rationale.**

**Are there any public or private drinking water wells or springs capturing (or that will be capturing) or producing drinking water from the aquifer or portion thereof within the proposed exemption area? Y/N\***

- Evaluate the capture zone of the well (s) in the area near the proposed project (i.e., the volume of the aquifer(s) or portion(s) thereof from within which groundwater is expected to be captured by that well).
- A drinking water well's current source of water is the volume (or portion) of an aquifer which contains water that will be produced by a well in its lifetime. What parameters were considered to determine the lifetime of the well?

- 
- (\*) If the answer to this question is Yes, therefore the aquifer currently serves as a source of drinking water.

## **2- Demonstration that the aquifer or portion thereof is mineral, hydrocarbon or geothermal energy producing per 146.4(b)(1)**

**Did the permit applicant for a Class II or III operation demonstrate as part of the permit application that the aquifer or portion thereof contains minerals or hydrocarbons that, considering their quantity and location are expected to be commercially producible? Did the permit applicant furnish the data necessary to make the demonstration as required by 40 C.F.R. 144.7(c)(1) and (2)? Summarize this demonstration and data**

- Include narrative statement, logs, maps, data and state issued permit.
- If the proposed exemption is to allow a Class II enhanced oil recovery well operation in a field or project containing aquifers from which hydrocarbon were previously produced, commercial producibility shall be presumed by the Director upon a demonstration of historical production having occurred in the project area or field. Many times it may be necessary to slightly expand an existing Class II operation to recover hydrocarbons and an aquifer exemption for the expanded area may be needed. If the expanded exemption for the Class II EOR well is for a well field or project area where hydrocarbons were previously produced, commercial producibility would be presumed.
- For new or existing Class II wells not located in a field or project containing aquifers from which hydrocarbons were previously produced, information such as logs, core data, formation description, formation depth, formation thickness and formation parameters such as permeability or porosity shall be considered by the Director, to the extent available.
- Many Class II injection well permit applicants may consider much information concerning production potential to be proprietary. As a matter of policy, some states/tribes do not allow any information submitted as part of a permit application to be confidential. In those cases where potential production information is not being submitted, EPA would need some record basis for concluding that the permit application demonstrates that the aquifer contains commercially producible minerals or hydrocarbons. For example, the permit application may include the results of any R & D pilot project. In this case, the applicant should state the reasons for believing that there are commercially producible quantities of minerals within the expanded area. Also, exemptions relating to new or existing Class II wells not located in a field or project containing aquifers from which hydrocarbons were previously produced should include the following types of information:
  - a- Production history of the well if it is a former production well which is being converted.
  - b- Description of any drill stem tests run on the horizon in question. This should include information on the amount of oil and water produced during the test
  - c- Production history of other wells in the vicinity which produce from the horizon in question.
  - d- Description of the project, if it is an enhanced recovery operation including the number of wells and there location.

For Class III wells, the Director must require an applicant to furnish data necessary to demonstrate that the aquifer is expected to be mineral or hydrocarbon producing and the Director must consider information contained in the mining plan for the proposed project, such as a map and general description of the mining zone, general information on the mineralogy and geochemistry of the mining zone, analysis of the amenability of the mining zone to the proposed mining

method, and a time-table of planned development of the mining zone. Information to be provided may also include: a summary of logging which indicates that commercially producible quantities of minerals or hydrocarbons are present.

**3- Demonstration that the aquifer or portion thereof is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical per 146.4(b)(2)**

*Is the aquifer or portion thereof situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical?* \_\_\_\_\_

- List evidence in the application showing how this demonstration was made.
- EPA consideration of an aquifer exemption request under this provision would include information related to: The availability of less costly and more readily available alternative supplies, the adequacy of alternatives to meet present and future needs, and costs for treatment (including cost of disposal of treatment residuals) and or development associated with the use of the aquifer.
- The economic evaluation, submitted by the applicant, should consider the above factors, and these that follow:
  1. Distance from the proposed exempted aquifer to public water supplies.
  2. Current sources of water supply for potential users of the proposed exempted aquifer.
  3. Availability, quantity and quality of alternative water supply sources.
  4. Analysis of future water supply needs within the general area.
  5. Depth of proposed exempted aquifer.
  6. Quality of the water in the proposed exempted aquifer.

**4- Demonstration that the aquifer or portion thereof is too contaminated per 146.4(b)(3)**

*Is the aquifer or portion thereof proposed for exemption so contaminated that it would be economically or technologically impractical to render that water fit for human consumption* \_\_\_\_\_

- List evidence in the application showing that the area to be exempted is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption.
- Economic considerations would also weigh heavily in EPA's decision on aquifer exemption requests under this section. Unlike the previous section, the economics involved are controlled by the cost of technology to render water fit for human consumption. Treatment methods can usually be found to render water potable. However, costs of that treatment may often be prohibitive either in absolute terms or compared to the cost to develop alternative water supplies.
- EPA's evaluation of aquifer exemption requests under this section will consider the following information submitted by the applicant:
  - (a) Concentrations, types, and source of contaminants in the aquifer.
  - (b) If contamination is a result of a release, whether contamination source has been abated.
  - (c) Extent of contaminated area.
  - (d) Probability that the contaminant plume will pass through the proposed exempted area.
  - (e) Ability of treatment to remove contaminants from ground water.
  - (f) Current and alternative water supplies in the area.
  - (g) Costs to develop current and future water supplies, cost to develop water supply from proposed exempted aquifer. This should include well construction costs, transportation costs, water treatment costs, etc.
  - (h) Projections on future use of the proposed aquifer.

**5- Demonstration that the aquifer or portion thereof is located over a Class III well mining area subject to subsidence or catastrophic collapse per 146.4(b)(4)**

*Is the aquifer or portion thereof proposed for exemption located over a Class III well mining area subject to subsidence or catastrophic collapse?* \_\_\_\_\_

- List evidence in the application showing that the area to be exempted is located over a Class III well mining area subject to subsidence or catastrophic collapse \_\_\_\_\_

- Discuss the mining method and why that method necessarily causes subsidence or catastrophic collapse. The possibility that non-exempted underground sources of drinking would be contaminated due to the collapse should also be addressed in the application.

**6- Demonstration that the aquifer or portion thereof has TDS more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system per 146.4(c)**

*Is the TDS of the aquifer or portion thereof proposed for exemption more than 3,000 and less than 10,000 mg/l? \_\_\_\_\_*

*Is the aquifer proposed for exemption or portion thereof not reasonably expected to supply a public water system? \_\_\_\_\_*

- Identify and discuss the information on which the determination that the total dissolved solids content of the ground water in the proposed exemption is more than 3,000 and less than 10,000 mg/l and the aquifer is not reasonably expected to supply a public water system.
- Include information about the quality and availability of water from the aquifer proposed for exemption. Also, the exemption request must analyze the potential for public water supply use of the aquifer. This may include: a description of current sources of public water supply in the area, a discussion of the adequacy of current water supply sources to supply future needs, population projections, economy, future technology, and a discussion of other available water supply sources within the area.

**7- Demonstration that a Class II aquifer exemption may be expanded to Class VI per**

**146.4(d)** (Refer to additional requirements in EPA's regulations for Class VI aquifer exemptions for this demonstration)

*May the areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well be expanded for the exclusive purpose of Class VI injection for geologic sequestration under § 144.7(d)? \_\_\_\_\_*

- List evidence in the application showing an existing Class II operation associated with AE that is being converted into Class VI \_\_\_\_\_

## **Appendix A-4 EPA GST Templates**

DRAFT

Plan revision number: **INSERT**  
Plan revision date: **INSERT**

## AREA OF REVIEW AND CORRECTIVE ACTION PLAN 40 CFR 146.84(b)

**INSERT PROJECT NAME**

### INSTRUCTIONS

This template provides a suggested outline and recommendations for the Area of Review (AoR) and Corrective Action Plan. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the plan.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate maps, figures, references, etc. should also be included to support the text of the plan.

**Note for all images and maps:** Please document the location of each image using consistent latitude/longitude coordinates. This applies to images in both plan view and cross section including, but not necessarily limited to: model grid, rock properties and regional geologic information, AoR plume and pressure front maps, and maps documenting the locations of other wells within the AoR.

Remember that, pursuant to 40 CFR 146.94(a) of the federal Class VI Rule, the requirement to maintain and implement an approved AoR and Corrective Action Plan is directly enforceable regardless of whether the requirement is a condition of the permit. For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

To avoid duplicative reporting, you are encouraged to provide relevant cross-references to other submissions made with the GSDT.

### **Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**  
Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Plan revision number: **INSERT**

Plan revision date: **INSERT**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

## **Computational Modeling Approach**

*[Please summarize the approach used for AoR modeling and delineation with narrative descriptions and supplemental figures and tables, to fulfil the requirement at 40 CFR 146.84(b)(1). Data relevant to these sections should be uploaded to the GSDT. The summary should include information in all of the subsections outlined below. Information should be presented in a way that demonstrates site-specific compliance with the Class VI Rule and thoroughly explains model construction and methodology.]*

*Note: Supplemental information such as raw data in a tabular format (e.g., detailed model grid information, porosity and permeability distributions) should be uploaded directly to the GSDT. Figures and graphics included in the AoR and Corrective Action plan should be used to supplement narrative descriptions of model approach and results.]*

### **Model Background**

*[Recommended considerations include:*

- What is the model name and the author(s)/institution?*
- For what purpose was this model developed? Why was it selected for this project?*
- What phases are accounted for by the model?*
- What methods, equations (including primary equation of state), or relationships does the model rely on? What are the key assumptions?*
- What processes were modeled (e.g., heat transport, multfluid flow, etc.)? These should match the processes selected in the AoR and Corrective Action module of the GSDT.*
- What were the reasons behind the selection of these specific processes? How will these processes inform AoR delineation?*
- How might the selection of modeled processes change during AoR reevaluations? If they do change, how will the original model output be compared to subsequent reevaluations?]*

### **Site Geology and Hydrology**

*[Recommended considerations include:*

- What site-specific data are available for geology and hydrology?*
- Identify and describe the injection and confining zones within the geologic context of the region and site (e.g., stratigraphy, depositional history, deformational/tectonic history, hydrogeology), as pertains to the modeling effort. Include maps/cross sections and cite references as necessary.)*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

*(Associated figures and graphics may include:*

- *Geologic and hydrologic maps and cross sections.*
- *Regional or local stratigraphic columns.]*

### **Model Domain**

Model domain information is summarized in Table 1.

*[Recommended considerations include:*

- *What is the size of the modeled area?*
- *What is the grid scaling?*
- *Is the grid scaling consistent throughout the geologic units and distance from the injection well?*
- *How was the model domain generated (e.g., describe any software programs used)?]*

*[Associated figures and graphics may include:*

- *Plan view and cross-sectional figures showing the horizontal and vertical extent of the model grid.]*

**Table 1. Model domain information.**

<b>Coordinate System</b>			
<b>Horizontal Datum</b>			
<b>Coordinate System Units</b>			
<b>Zone</b>			
<b>FIPZONE</b>		<b>ADSZONE</b>	
<b>Coordinate of X min</b>		<b>Coordinate of X max</b>	
<b>Coordinate of Y min</b>		<b>Coordinate of Y max</b>	
<b>Elevation of bottom of domain</b>		<b>Elevation of bottom of domain</b>	

### **Porosity and Permeability**

*[Recommended considerations include:*

- *What literature and site-specific data were used to determine the porosity and permeability of the injection and confining zones?*
  - *How many samples or data sources were used? What method(s) were used?*
  - *What was the spatial distribution of the samples?*
- *How do the porosity and permeability vary across the unit(s)? How were porosity and permeability distributions determined?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *How will porosity and permeability information collected during pre-operational testing be incorporated into the AoR modeling and delineation?*
- *Does the site-specific data match expectations and/or other regional data collected from within the formation?]*

*[Associated figures and graphics may include:*

- *Plan view, cross-sectional, and/or 3-D figures showing the porosity or permeability distribution within the model domain.*
- *Bar charts or line charts showing porosity and permeability distributions in various rock layers.]*

### **Constitutive Relationships and Other Rock Properties**

*[Recommended considerations include:*

- *What constitutive relationships (e.g., liquid saturation vs. capillary pressure) were included in the model? Why were these included?*
- *What methods or experiments were used to determine constitutive relationships?*
- *Was rock compressibility included as a model parameter? If so, how was it determined?]*

*[Associated figures and graphics may include:*

- *Graphs showing constitutive relationships for relevant rock types (correlation curves) for each defined constitutive relationship.*
- *Any other graphical presentation of fitted functional forms.]*

### **Boundary Conditions**

*[Recommended considerations include:*

- *What boundary conditions were specified and why?*
- *What assumptions were made?]*

### **Initial Conditions**

Initial conditions for the model are given in Table 2.

*[If parameters are spatially variable, be sure to describe this variability and supplement it with relevant figures and graphics. Any raw data or detailed tabular data regarding the spatial distribution of initial conditions should be uploaded directly to the GSDT AoR module.]*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**Table 2. Initial conditions.**

Parameter	Value or Range	Units	Corresponding Elevation (ft MSL)	Data Source
Temperature				
Formation pressure				
Fluid density				
Salinity				
Brine viscosity				
Rock compressibility				

**Operational Information**

Details on the injection operation are presented in Table 3.

*[Note: Operating information should be specified for each injection well or production/withdrawal well separately, both in this plan and in the GSDT's AoR and Corrective Action module.]*

**Table 3. Operating details.** *[Modify the number of wells as needed.]*

Operating Information	Injection Well 1	Injection Well 2	Injection Well 3
Location (global coordinates) X Y			
Model coordinates ( <b>Insert units</b> ) X Y			
No. of perforated intervals			
Perforated interval ( <b>Insert units</b> ) Z top Z bottom			
Wellbore diameter ( <b>Insert units</b> )			
Planned injection period Start End			
Injection duration ( <b>Insert units</b> )			
Injection rate ( <b>Insert units</b> )*			

\*If planned injection rates change year to year, add rows to reflect this difference, and include an average injection rate per year (or interval if applicable).

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### ***Fracture Pressure and Fracture Gradient***

Calculated fracture gradient and maximum injection pressure values are given in Table 4.

*[Recommended considerations include:*

- *What types of tests were conducted to determine the fracture pressure and fracture gradient for the injection and confining zones? What procedures were used?*
- *What intervals were tested?*
- *Are the results consistent with the literature/available data from nearby wells?*
- *Will fracture pressure be measured during pre-operational testing? If so, how will that information be incorporated into AoR modeling and delineation?]*

**Table 4. Injection pressure details.** *[Modify the number of wells as needed.]*

<b>Injection Pressure Details</b>	<b>Injection Well 1</b>	<b>Injection Well 2</b>	<b>Injection Well 3</b>
Fracture gradient ( <b>Insert units</b> )			
Maximum injection pressure (90% of fracture pressure) ( <b>Insert units</b> )			
Elevation corresponding to maximum injection pressure ( <b>Insert units</b> )			
Elevation at the top of the perforated interval ( <b>Insert units</b> )			
Calculated maximum injection pressure at the top of the perforated interval ( <b>Insert units</b> )			

### **Computational Modeling Results**

#### ***Predictions of System Behavior***

*[Note: Modeling results should be presented both as time-series data and as snapshots. Time-series data should be provided for specific locations (e.g., monitoring well) over the lifetime of the project, and snapshot data should be provided for the entire model domain at a specific time (e.g., at 1 year, 5 years, 30 years, etc.) Please see the GSDT AoR and Corrective Action Module for more details and specific recommended variables to include.]*

*[Recommended considerations include:*

- *What are the positions of the plume and pressure front at the end of the model timeframe? (Include one or more maps as necessary.)*
- *What are the geographic boundaries of the delineated AoR? (Include one or more maps as necessary.)*
- *How does the AoR evolve over time throughout the lifetime of the project? How long does it take to reach maximum extent? Does the AoR decrease after reaching the maximum extent?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *Are there any key uncertainties identified during modeling? How will these be addressed through pre-operational testing (if applicable)?*
- *How does the selected AoR accurately define the maximum plume and pressure front extent throughout the lifetime of the project?*
- *How will the computational model output be compared to AoR reevaluations? How will model results be used to evaluate the accuracy of AoR predictions over time?]*

*[Associated figures and graphics may include:*

- *Multiple time series and snapshot maps showing the modeled plume and pressure front in plan view.*
- *Cross sections showing the vertical and horizontal extent of the AoR.*
- *Graph showing the relative contribution of each CO<sub>2</sub> phase (e.g., total mass, gas phase, dissolved phase, trapped gas, etc.) over time.]*

### **Model Calibration and Validation**

*[Recommended considerations include:*

- *What calibration or history-matching has been conducted?*
- *What data sources were used?*
- *What methods were used for sensitivity analysis? Why were these methods selected? What were the results? Note: Sensitivity analyses are not required by 40 CFR 146.84, but are recommended by EPA. However, if you are proposing an alternative PISC timeframe, sensitivity analyses are required pursuant to 40 CFR 146.93(c)(2)(vi), to identify and assess parameters that contribute significantly to uncertainty.]*

*[Associated figures and graphics may include:*

- *Comparison maps showing modeled AoR extent using different parameters (e.g., decreased injection zone porosity, increased reservoir permeability, etc.).*
- *Graphical results of any sensitivity analyses performed.*
- *Boundary plots and uncertainty plots (if applicable) for various CO<sub>2</sub> phases, plume area, and reservoir pressure.]*

### **AoR Delineation**

#### **Critical Pressure Calculations**

*[Recommended considerations include:*

- *What method was used to calculate the critical pressure? (Cite references as necessary.)*
- *What are the assumptions used in these calculations?*
- *What parameters were specified as input, and which were calculated?]*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### ***AoR Delineation***

*[Note: the AoR delineation must reflect anticipated operating data (including anticipated injection pressures, rates, and volumes over the proposed life of the project), pursuant to 40 CFR 146.84(c)(1)(i).]*

*[Recommended considerations include:*

- How was the AoR delineation selected (what model results were used to define the AoR)? Justify how the AoR delineation represents the largest area in which USDWs may be endangered by the injection activity.*
- How might the AoR delineation be verified and/or changed during AoR reevaluation, or following pre-operational testing?*
- What are the locations of the injection well(s) and any monitoring wells used to track plume and pressure front migration? How will results of testing and monitoring in these wells help verify the extent and location of the delineated AoR?]*

*[Associated figures and graphics may include:*

- Map(s) of the AoR showing the AoR delineation relative to injection/monitoring well locations, the predicted maximum extent of the plume and/or pressure front, or other important features.]*

### **Corrective Action**

#### ***Tabulation of Wells within the AoR***

*[Note: Files with the locations of all wells within the AoR should be uploaded to the GSDT. The operator is encouraged to provide a map of these wells as part of this plan.]*

#### ***Wells within the AoR***

*[Recommended considerations include:*

- What databases or other information sources were used to identify these wells?*
- What is the type and status of each well (e.g., operating Class II injection well, temporarily abandoned oil well, etc.)? (Attach tables as necessary.)*
- Are there historical wells believed to be in the area that may not be captured in available data sources?]*

#### ***Wells Penetrating the Confining Zone***

*[Recommended considerations include:*

- How were the depths of these wells determined?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *What is the type and status of each well (e.g., operating Class II injection well, temporarily abandoned oil well, etc.)? (Attach tables as necessary.)*
- *What is the condition of each well?*
- *If corrective action is needed, what activities will be completed and when?]*

### **Plan for Site Access**

*[Recommended considerations include:*

- *What agreements have been made for access so that corrective action can be performed?*
- *For what period of time has site access been guaranteed?]*

### **Corrective Action Schedule**

*[Recommended considerations include:*

- *Will phased corrective action be conducted? What is the specific schedule that will be implemented? How will the proposed phased corrective action schedule protect USDWs?*
- *What benchmarks or triggers are included as part of a phased corrective action plan? What information was used to determine these triggers?*
- *How might the results of testing and monitoring, and/or AoR reevaluation inform changes to the phased corrective action plan?]*

### **Reevaluation Schedule and Criteria**

#### **AoR Reevaluation Cycle**

**INSERT PERMIT APPLICANT NAME** will reevaluate the above described AoR every **X** years during the injection and post-injection phases.

*[Note: Pursuant to 40 CFR 146.84(e), AoR reevaluation must occur at least once every five years. The operator is also required to include in the reevaluation plan any benchmarks or milestones (e.g., from testing and monitoring) that may trigger additional AoR reevaluations.]*

*[Recommended considerations include:*

- *What are the specific procedures that will be followed for the AoR reevaluation? (Provide a list of steps or similar description.)*
- *What monitoring and operational data will be used? What specific thresholds or benchmarks will be used to determine if the testing and monitoring data are consistent with the model predictions?*
- *How will new data be incorporated into the model?*
- *How will model reevaluations be compared to the initial AoR modeling and delineation?]*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### ***Triggers for AoR Reevaluations Prior to the Next Scheduled Reevaluation***

*[Recommended considerations include:*

- What changes in what specific parameters (temperature, pressure, RST saturation, etc.) would trigger a reevaluation? What are the quantitative thresholds for these determinations?*
- What other events (e.g., a seismic event) would trigger an AoR reevaluation?]*

**INSERT PERMIT APPLICANT NAME** will discuss any such events with the UIC Program Director to determine if an AoR reevaluation is required. If an unscheduled reevaluation is triggered, **INSERT PERMIT APPLICANT NAME** will perform the steps described at the beginning of this section of this Plan.

DRAFT

**CLASS VI PERMIT APPLICATION NARRATIVE**  
**40 CFR 146.82(a)**

**INSERT PROJECT NAME**

**INSTRUCTIONS**

To reduce the potential for redundancy and to organize permit application components in a manner that facilitates efficient review by the permitting authority, EPA recommends that Class VI permit applicants submit both:

1. A narrative with a characterization of the proposed site, overall strategies for site operations, and other general project information (compiled into a single file and submitted using the Project Information Tracking module of the GSDT).
2. Specific, detailed information required by certain Class VI Rule provisions (submitted using other GSDT modules, which are tailored to the applicable Class VI Rule requirements).

This template provides a suggested outline for the narrative component of the permit application. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the permit application.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific permit application development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate maps, figures, references, etc. should also be included to support the text. If desired, appendices, attachments, or other supplemental information associated with the narrative that do not fit into one of the specific GSDT modules can be uploaded directly to the Project Information Tracking module using the module field designated for "any other information requested by the UIC Program Director."

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>.

This narrative file does not need to repeat any information submitted with the GSDT, but it should clearly reference these other submissions to ensure that all Class VI requirements are met. EPA recommends that you review the GSDT modules and/or user guides for each topic area below before developing your narrative, to avoid duplicating efforts or information.

After completing the narrative, upload it to the Project Information Tracking GSDT module, on the Initial Permit Application tab. EPA recommends converting to PDF prior to uploading.

## **Project Background and Contact Information**

*[In this section, provide a brief overview of your proposed project. Examples of potential content include (but are not limited to):*

- *Project goals.*
- *Partners/collaborators.*
- *Overview of the project timeframe.*
- *Proposed injection mass/volume and CO<sub>2</sub> source.*
- *Whether an injection depth waiver or aquifer exemption expansion is being requested.*

*Also, include a list of state, tribe, and territory contacts as described at 40 CFR 146.82(a)(20).*

*Key project and facility details required by 40 CFR 146.82(a)(1) can be submitted directly in the Project Information Tracking module of the GSDT.]*

### **GSDT Submission - Project Background and Contact Information**

**GSDT Module:** Project Information Tracking

**Tab(s):** General Information tab; Facility Information and Owner/Operator Information tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Required project and facility details **[40 CFR 146.82(a)(1)]**

## **Site Characterization**

*[In this section, provide text, tables, figures, and/or other relevant material to fulfill the site characterization requirements for the permit application, listed at 40 CFR 146.82(a)(2), (3), (5), and (6). Please cite references as appropriate. You may attach supporting documentation in one or more separate files using the field for “any other information requested by the UIC Program Director” in the Project Information Tracking module.*

*The Class VI Rule recognizes that project sites will have varying levels of pre-existing information and that some data submitted with a permit application will be preliminary. As part of the site characterization narrative, EPA recommends discussing data gaps and uncertainties that will be addressed through the formation testing program and other activities conducted after well construction/conversion, but before receiving authorization to inject.*

*In general, the subsections below follow the order used in the UIC Program Class VI Well Site Characterization Guidance; see that document for further information.]*

### **Regional Geology, Hydrogeology, and Local Structural Geology [40 CFR 146.82(a)(3)(vi)]**

*[EPA recommends that the maps and cross sections required by 40 CFR 146.82(a)(3)(vi) be accompanied by a brief narrative describing the regional geology and hydrogeology (e.g.,*

including stratigraphy, structure, and tectonic history) near the proposed injection site, as well as local structural geology.

Recommended considerations include:

- *What are characteristics of the injection and confining zones (names, lithology, depth, etc.)? How consistent are these characteristics regionally?*
- *What is the general geologic history of the region and the project site?*
- *What are the major geologic features (e.g., faults, synclines/anticlines, etc.) near the proposed injection site?*
- *How does the proposed project site fit into the regional geologic setting?]*

[Associated figures may include:

- *Maps, cross sections, and stratigraphic columns showing regional geologic features and characteristics.]*

### **Maps and Cross Sections of the AoR [40 CFR 146.82(a)(2), 146.82(a)(3)(i)]**

[EPA recommends that the maps and cross sections required by 40 CFR 146.82(a)(2) and (3)(i) be accompanied by a brief narrative description interpreting the figures and providing an overview of key features important to the project.

Recommended considerations include:

- *What is the spatial relationship between the proposed project site and regional geologic features such as faults or the lowermost USDW? What is the relationship between the proposed injection formation and other site-specific geologic characteristics?*
- *Is there any evidence of regional formation pinch-out? Is the proposed storage site influenced by a structural trap (e.g., faults or a dome)?*
- *What is the lateral extent of the proposed injection and confining formations? Are they continuous throughout the proposed site? How was this determined?*
- *Are there any secondary confining zones between the proposed injection formation and the lowermost USDW?]*

[Associated figures may include:

- *Map identifying the location of all wells, subsurface sites, surface water, and other features listed in 40 CFR 146.82(a)(2) that are within the AoR.*
- *Maps and cross section with information including lithology, the sequence of geologic units (including the proposed injection formations, confining units, and USDWs), approximate formation thicknesses, lateral extent of units, correlation of units in the vicinity of the proposed project site.]*

### ***Faults and Fractures [40 CFR 146.82(a)(3)(ii)]***

*[Recommended considerations include:*

- Are there known or suspected faults and/or fractures within the AoR? Do these features transect the injection zone?*
- What information was used to determine that faults and fractures do not pose a threat to containment? How was this determination made?*
- How stable are faults? What is the sealing capacity of faults/fractures? What methods were used to determine the stability and sealing capacity?*
- Is there evidence that faults and/or fractures in the injection zone may provide conduits for preferential fluid flow?*
- What uncertainties are there in fault and fracture characterization data? How might these uncertainties be addressed with pre-operational testing?]*

*[Associated figures may include:*

- Map showing the location, orientation, and properties of all known or suspected faults and fractures that may transect the confining zone(s) in the AoR.*
- Map identifying major faults and fractures in the injection zone, with information on the connectivity and extent of these features.*
- Results of geophysical survey data used to delineate faults and characterize their geometry.*
- Other plots or figures to support a determination of fault stability and potential for reactivation.]*

### ***Injection and Confining Zone Details [40 CFR 146.82(a)(3)(iii)]***

*[Recommended considerations include:*

- What is the depth, areal extent, and thickness of the injection and confining zones? What methods were used to determine this?*
- How variable is the thickness of the injection and confining zones within the AoR? How might this affect carbon dioxide storage and confinement?*
- How many samples were used to determine injection and confining zone properties? How is this sufficient to characterize formation mineralogy? To characterize porosity and permeability?*
- What is the mineralogy and petrology of the injection and confining zones?*
- Are any geochemical reactions more likely given the mineralogical makeup of either the injection or confining zone? How might these geochemical reactions affect carbon dioxide storage and containment? Note: This information may overlap with the discussion of site geochemistry. Please include cross-references as applicable.*

- *Is the mineralogy of the injection and confining zones compatible with the proposed carbon dioxide stream?*
- *What is the average permeability and porosity of the injection and confining zones? What is the spatial distribution of porosity and permeability values within the injection and confining zones?*
- *What data were used to determine permeability and porosity?*
- *What is the estimated storage capacity and injectivity of the injection zone? What is the integrity of the confining zone?*
- *What is the capillary pressure of the confining zone? How was this determined? Does this significantly affect the ability of carbon dioxide to penetrate the confining zone?*
- *What indirect geophysical methods were employed to determine the extent, depth, thickness, and lithology of the injection and confining zones? How well did these results compare to other characterization methods (e.g., core analysis, wireline logs, etc.)?*
- *What additional information may be required to adequately characterize the injection and confining zones? Will this information be collected during pre-operational testing?*
- *What sources of uncertainty are there? How will these be addressed?]*

*[Associated figures may include:*

- *Isopach and isochore maps showing stratigraphic and vertical thickness.*
- *Well log data (if available).*
- *Geophysical survey results.*
- *Maps showing locations and depths of samples collected (if any).*
- *Maps and/or cross sections showing the distribution of porosity and permeability within the confining and injection zones. Note: Similar maps and cross sections may need to be included with the AoR and Corrective Action Plan. Please include cross-references as applicable.*
- *Tabular results of permeability and porosity data (from the laboratory) or the results of field measurements and estimations of permeability and porosity distribution.]*

### ***Geomechanical and Petrophysical Information [40 CFR 146.82(a)(3)(iv)]***

*[Recommended considerations include:*

- *What methods were used to determine the geomechanical and petrophysical characteristics of the confining zone? How many samples were collected? From what depths?*
- *Where any fractures identified through geomechanical tests? Please cross-reference the Faults and Fractures section as applicable.*
- *What is the average ductility of the confining zone? How consistent is this throughout the confining zone?*

- *What is the average rock strength of the confining zone? How consistent is this?*
- *What is the in situ stress field of the confining zone? Is this consistent with the proposed injection pressures and fault stability analyses?*
- *What is the average pore pressure of the confining zone (if available at this stage of the project)?*
- *Were there any anomalies or uncertainties in the data? How will these be addressed during pre-operational testing?*
- *How consistent are the results of different tests? What are the causes of any inconsistencies? Can these be addressed with additional testing?]*

*[Associated figures may include:*

- *Results in a tabular and/or graphical form.]*

***Seismic History [40 CFR 146.82(a)(3)(v)]***

*[Please include a brief narrative description of the seismic history of the project site, as required by 40 CFR 146.82(a)(3)(v). This description should include the presence and depth of all seismic sources, and a demonstration that seismic activity does not pose a threat to carbon dioxide containment.*

***Note: As applicable, the information included in this subsection should be consistent with the Testing and Monitoring Plan [40 CFR 146.90] and the Emergency and Remedial Response Plan [40 CFR 146.94].***

*Recommended considerations include:*

- *What sources of data were used to characterize the seismic history of the site? Be sure to cite references as applicable.*
- *What seismic sources exist within the AoR and regionally? How active are these sources?*
- *Was a seismic risk threshold used or established to determine site-specific earthquake risk? What was the source of this threshold, or how was it calculated?*
- *If data suggests a substantial risk of seismic activity, what is the risk to subsurface containment? What other geologic data (e.g., geomechanical data, fault stability analyses, etc.) help demonstrate that seismic activity does not pose a risk to containment?]*

*[Associated figures may include:*

- *Tabular presentation of seismic sources and depths.*
- *Tabular presentation of historical seismic events and relevant details.*
- *Map showing the location and depth of known seismic sources within and near the AoR.]*

### **Hydrologic and Hydrogeologic Information [40 CFR 146.82(a)(3)(vi), 146.82(a)(5)]**

*[Recommended considerations include:*

- *What is the depth and location of all USDWs, water wells, and springs within the AoR? What is the direction of regional groundwater flow?*
- *What sources of data were used to determine regional and site-specific hydrologic and hydrogeologic characteristics? What, if any, field surveys or additional methods were used to fill data gaps?]*

*[Associated figures may include:*

- *Maps and cross sections indicating the location and depth of USDWs. Note: Information pertaining to the location and depth of USDWs within the AoR should be included in the cross sections submitted to satisfy requirements at 40 CFR 146.82(a)(3)(i).*
- *Potentiometric or isopach maps.]*

### **Geochemistry [40 CFR 146.82(a)(6)]**

*[Recommended considerations include:*

- *What are the sources of data used to determine fluid- and solid-phase geochemistry at the project site? Was any primary data collected (e.g., from a test well) for this permit?*
- *Are there any limitations or uncertainties regarding the quality of pre-existing data used to characterize geochemistry?*
- *What parameters were analyzed? Why were these parameters selected? Were the same parameters analyzed for all formations (injection, confining, USDWs, etc.)? Note: The parameters analyzed for site characterization should be consistent with the testing and monitoring and PISC plans. If there are differences, please discuss the reasons.*
- *How many samples were collected? Where were they collected? What methods were used to analyze the parameters listed above?*
- *What is the solid-phase geochemistry of critical formations (injection and confining zones) and any other relevant formations?*
- *Was any geochemical modeling done to identify major reactions that may occur in either the injection or confining zone? What calculations or models were used? What was the input data? What were the results?*
- *Are geochemical reactions expected to play a significant role in trapping? Cross-reference the AoR plan as applicable.*
- *How is the geochemical data presented in this section representative of the injection and confining zones?]*

*[Associated figures may include:*

- *Tabular baseline fluid chemistry data.*

- Graphical baseline fluid chemistry data.
- Sampling locations and dates.
- Maps showing geochemical results in the context of the AoR (if possible).]

**Other Information (Including Surface Air and/or Soil Gas Data, if Applicable)**

*[Please provide a narrative description of any other information that is relevant to the site characterization. If surface air and/or soil gas monitoring is required by the UIC Program Director as part of the Testing and Monitoring Plan, baseline data should be presented in this section.]*

*[Recommended considerations include:*

- *Where any other analyses or assessments of the site conducted to support site characterization? What methods were used? What were the results?*
- *If gas monitoring was conducted to collect baseline data, what methods were used? Why was gas monitoring necessary or requested? What were the results?]*

**Site Suitability [40 CFR 146.83]**

*[Please provide a description of how the proposed injection site meets the suitability requirements set forth at 40 CFR 146.83. This demonstration should draw upon and synthesize the site characterization data described above. Please frame this discussion to match the rule requirements, demonstrating that the injection zone can accommodate the total anticipated carbon dioxide volume and that the confining zone has sufficient integrity to contain the proposed injected volume and any displaced fluids.]*

*[Recommended considerations include:*

- *What is the subsurface distribution of lithological facies? What are the implications for carbon dioxide plume migration?*
- *How will carbon dioxide be confined to the injection zone? How do the site characterization data demonstrate the lack of potential leakage pathways?*
- *How will the carbon dioxide stream interact with well materials and subsurface formations (injection and confining zones)?*
- *What is the total storage capacity of the injection zone? How was this determined? How is this sufficient to receive the proposed amount of carbon dioxide?*
- *Are there any potential concerns regarding confining zone integrity? What site characterization data support this determination?*
- *Is secondary confinement necessary to ensure USDW protection? If so, what is the secondary confining zone, what are its characteristics, and how will it prevent the migration of carbon dioxide and displaced fluids into USDWs?]*

## **AoR and Corrective Action**

*[Please provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT, it can be included here.]*

*Upload your proposed AoR and Corrective Action Plan and provide detailed modeling/well tabulation information using the AoR and Corrective Action module.]*

### **AoR and Corrective Action GSDT Submissions**

**GSDT Module:** AoR and Corrective Action

**Tab(s):** All applicable tabs

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Tabulation of all wells within AoR that penetrate confining zone **[40 CFR 146.82(a)(4)]**
- AoR and Corrective Action Plan **[40 CFR 146.82(a)(13) and 146.84(b)]**
- Computational modeling details **[40 CFR 146.84(c)]**

## **Financial Responsibility**

*[Please provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT it can be included here.]*

*Submit detailed cost estimate and financial instrument information using the Financial Responsibility Demonstration module.]*

### **Financial Responsibility GSDT Submissions**

**GSDT Module:** Financial Responsibility Demonstration

**Tab(s):** Cost Estimate tab and all applicable financial instrument tabs

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Demonstration of financial responsibility **[40 CFR 146.82(a)(14) and 146.85]**

## **Injection Well Construction**

*[In this section, provide text, tables, and/or figures to fulfill the injection well construction data requirements for the permit application, listed at 40 CFR 146.82(a)(9), (11), and (12). Also include or attach any other information necessary to demonstrate/establish compliance with the requirements at 40 CFR 146.86.]*

*Please state at the start of this section if the proposed injection project is using a new or existing well. If an existing well is being modified for use as a Class VI well, existing materials (e.g.,*

*data, schematics, etc.) can be attached and referenced, and submitted information should meet the requirements at 40 CFR 146.81(c).*

***Note: Schematics or other graphics showing the surface and subsurface well construction details are required pursuant to 40 CFR 146.82(a)(11) and should be supplemented with a brief narrative description and/or annotations on the graphic.]***

***Proposed Stimulation Program [40 CFR 146.82(a)(9)]***

*[Recommended considerations include:*

- Is a stimulation program necessary? When will stimulation occur?*
- What stimulation methods will be used? How will the proposed stimulation methods ensure that no new fractures develop, and that containment will be maintained?*
- Will any chemicals be added to aid stimulation? Are there any compatibility issues between these chemicals and the injection and confining zones?*
- What methods were used to determine the maximum safe injection pressure for the stimulation program?]*

***Construction Procedures [40 CFR 146.82(a)(12)]***

*[Please provide a brief evaluation of proposed injection well construction procedures, with specific details to demonstrate an understanding of down-hole stresses and the maintenance of mechanical integrity.*

***Note: The Class VI rule at 40 CFR 146.86(b) requires specific information related to well construction materials (casing, cement, tubing, packer). Some of this information may be included in other components of the permit application. Please include cross-references as applicable.]***

*[Recommended considerations include:*

- How will well construction prevent the movement of fluids into or between USDWs?*
- How do proposed construction procedures permit the use of testing and monitoring devices, both within the borehole and within the annulus?*
- What contingency plans are in place to respond to unexpected events during drilling (e.g., excessive deviation, loss of drill string, loss of circulation, cement issues etc.)? What remedial methods will be used to address these issues? How will these methods ensure USDW protection?*
- What formal standards (e.g., API, ASTM, etc.) apply to the proposed well materials (casing, cement, tubing, packer)?*
- Are all proposed well materials compatible with the carbon dioxide stream and formation fluids? How was this determined?]*

## Casing and Cementing

*[In addition to a brief narrative description of proposed casing and cement, please use Table 1 to provide specific details on the proposed casing strings to meet the requirements at 40 CFR 146.86(b)(iv).]*

*[Recommended considerations include:*

- What is the average down-hole temperature? How will this affect casing and cement performance throughout the life of the project?*
- Is the structural strength of the proposed casing sufficient for the life of the injection project? Is there any indication that structural strength may decrease over time? How will this be addressed during injection and PISC?*
- What type of cement will be used? How much? Are there any additives proposed?*
- What is the cementing procedure? Will cementing occur through staging?*
- How will the mechanical integrity of the cement and casing be verified? How will this demonstrate that USDWs are not endangered?]*

**Table 1. Casing details.**

Casing String	Casing Depth Interval and Units	Borehole Diameter	Wall Thickness	External Diameter	Casing Material (e.g., weight/grade/connection)	String Weight
Conductor						
Surface						
Long String						
<i>Add other casing types as applicable</i>						

## Tubing and Packer

*[Please provide information related to the tubing and packer materials in Table 2. The information in this table meets the minimum requirements at 40 CFR 146.86(c).]*

**Table 2. Tubing and packer details.**

Material	Setting Depth Interval and Units	Tensile Strength	Burst Strength	Collapse Strength	Material (e.g., weight/grade/connection)
Tubing					
<i>Additional materials</i>					

## **Pre-Operational Logging and Testing**

*[Please provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT it can be included here.*

*Submit your proposed pre-operational testing program using the Pre-Operational Testing module.]*

### **Pre-Operational Logging and Testing GSDT Submissions**

**GSDT Module:** Pre-Operational Testing

**Tab(s):** Welcome tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Proposed pre-operational testing program **[40 CFR 146.82(a)(8) and 146.87]**

## **Well Operation**

*[Provide text, tables, and/or figures to fulfill the operating data requirements for the permit application, listed at 40 CFR 146.82(a)(7) and (10). Also include or attach any other information necessary to demonstrate/establish compliance with the requirements at 40 CFR 146.88. Please use a table like the one below to present the proposed operational information.]*

### **Operational Procedures [40 CFR 146.82(a)(10)]**

*[Please provide a brief narrative describing the proposed operational procedures. This should supplement the data presented in Table 3 below.*

*Recommended considerations include:*

- *What calculations or methods were used to determine the operational values presented in Table 3?*
- *How do the values for the parameters listed below relate to the critical fracture pressure and other geological and hydrological parameters?*
- *Are operational parameters likely to stay constant for the lifetime of the injection project? What might trigger a change? What changes might be made?]*

### **Proposed Carbon Dioxide Stream [40 CFR 146.82(a)(7)(iii) and (iv)]**

*[Recommended considerations include:*

- *What is the source(s) of the carbon dioxide stream?*
- *What are the physical and chemical characteristics of the carbon dioxide stream? What methods were used to determine this information?*

- *What is the corrosiveness of the carbon dioxide stream? How will the stream behave under the proposed operational conditions (e.g., down-hole P/T) for the lifetime of the injection project?]*

**Table 3. Proposed operational procedures.**

Parameters/Conditions	Limit or Permitted Value	Unit
Maximum Injection Pressure		
Surface		
Downhole		
Average Injection Pressure		
Surface		
Downhole		
Maximum Injection Rate		
Average Injection Rate		
Maximum Injection Volume and/or Mass		
Average Injection Volume and/or Mass		
Annulus Pressure		
Annulus Pressure/Tubing Differential		

### **Testing and Monitoring**

*[Please provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT it can be included here.*

*Upload your Testing and Monitoring Plan using the Project Plan Submissions module.]*

<p><b>Testing and Monitoring GSDT Submissions</b></p> <p><b>GSDT Module:</b> Project Plan Submissions  <b>Tab(s):</b> Testing and Monitoring tab</p> <p>Please use the checkbox(es) to verify the following information was submitted to the GSDT:  <input type="checkbox"/> Testing and Monitoring Plan <b>[40 CFR 146.82(a)(15) and 146.90]</b></p>
---

### **Injection Well Plugging**

*[Please provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT it can be included here.*

*Upload your Injection Well Plugging Plan using the Project Plan Submission module.]*

***Injection Well Plugging GSDT Submissions***

***GSDT Module:*** Project Plan Submissions

***Tab(s):*** Injection Well Plugging tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Injection Well Plugging Plan ***[40 CFR 146.82(a)(16) and 146.92(b)]***

**Post-Injection Site Care (PISC) and Site Closure**

*[Please provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT it can be included here.]*

*Please indicate whether you are proposing an alternative PISC timeframe. Upload your PISC and Site Closure Plan using the Project Plan Submission module and, if desired, upload information pertaining to the alternative PISC timeframe demonstration using the Alternative PISC Timeframe Demonstration module.]*

***PISC and Site Closure GSDT Submissions***

***GSDT Module:*** Project Plan Submissions

***Tab(s):*** PISC and Site Closure tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

PISC and Site Closure Plan ***[40 CFR 146.82(a)(17) and 146.93(a)]***

***GSDT Module:*** Alternative PISC Timeframe Demonstration

***Tab(s):*** All tabs (only if an alternative PISC timeframe is requested)

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Alternative PISC timeframe demonstration ***[40 CFR 146.82(a)(18) and 146.93(c)]***

**Emergency and Remedial Response**

*[Please provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT it can be included here.]*

*Upload your Emergency and Remedial Response Plan using the Project Plan Submission module.]*

### **Emergency and Remedial Response GSDT Submissions**

**GSDT Module:** Project Plan Submissions

**Tab(s):** Emergency and Remedial Response tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Emergency and Remedial Response Plan **[40 CFR 146.82(a)(19) and 146.94(a)]**

### **Injection Depth Waiver and Aquifer Exemption Expansion**

*[If you are requesting an injection depth waiver or an areal expansion of an existing aquifer exemption, indicate that here and provide a short description of the information and files submitted to the GSDT, with references to the rule requirements those submissions satisfy. These items are not official components of the Class VI permit application, but are considered supplemental or associated submissions. Remember that if a depth waiver or aquifer exemption expansion is requested, there will be implications for other components of the permit application (e.g., in the Testing and Monitoring Plan).*

*Submit these items, if desired, using the Injection Depth Waivers and Aquifer Exemption Expansions module.]*

### **Injection Depth Waiver and Aquifer Exemption Expansion GSDT Submissions**

**GSDT Module:** Injection Depth Waivers and Aquifer Exemption Expansions

**Tab(s):** All applicable tabs

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Injection Depth Waiver supplemental report **[40 CFR 146.82(d) and 146.95(a)]**

Aquifer exemption expansion request and data **[40 CFR 146.4(d) and 144.7(d)]**

### **Optional Additional Project Information [40 CFR 144.4]**

*[The following is a list of Federal laws that may apply prior to the issuance of UIC permits. When any of these laws are applicable, EPA must ensure that they are followed. The optional additional information requested below will assist EPA in its analyses to satisfy these laws.*

- *The Wild and Scenic Rivers Act, 16 U.S.C. 1273 et seq. Identify any national wild and scenic river that may be impacted by the activities associated with the proposed project.*
- *The National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq. Identify properties listed or eligible for listing in the National Register of Historic Places that may be affected by the activities associated with the proposed project. If previous historic and cultural resource survey(s) have been conducted, provide the results of the survey(s).*
- *The Endangered Species Act, 16 U.S.C. 1531 et seq. Identify any endangered or threatened species that may be affected by the activities associated with the proposed project. If a previous endangered or threatened species survey has been conducted, provide the results of the survey.*

- *The Coastal Zone Management Act, 16 U.S.C. 1451 et seq. Identify any coastal zones that may be affected by the activities associated with the proposed project.]*

**Other Information**

*[Provide any other information requested by the UIC Program Director, or that is not specifically requested/required but may be useful for the permit application, in this section to fulfill the requirement at 40 CFR 146.82(a)(21). You can also provide information in a separate file or files using the designated field on the Initial Permit Application tab of the Project Information Tracking module.]*

DRAFT

## CONSTRUCTION DETAILS

**INSERT PROJECT NAME**

### INSTRUCTIONS

This template provides a suggested outline and recommendations for the construction details summary for a Class VI well. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the plan.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate figures, references, etc. should also be included to support the text of the plan.

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

### Facility Information

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

### Introduction

The construction details for the **INSERT NAME OF WELL(S)** are described in this attachment.

**Injection Well Construction Details**

***Table 1. Open Hole Diameters and Intervals***

Name	Depth Interval Insert units	Open Hole Diameter Insert units	Comment
Conductor			
Surface			
Intermediate			
Long-string			

***Table 2. Casing Specifications***

Name	Depth Interval Insert units	Outside Diameter Insert units	Inside Diameter Insert units	Weight Insert units	Grade (API)	Design Coupling (Short or Long Threaded)	Thermal Conductivity Insert units	Burst Strength Insert units	Collapse Strength Insert units
Conductor									
Surface									
Intermediate									
Long-string									

**Table 3. Tubing Specifications**

Name	Depth Interval Insert units	Outside Diameter Insert units	Inside Diameter Insert units	Weight Insert units	Grade (API)	Design Coupling (Short or Long Thread)	Burst strength Insert units	Collapse strength Insert units
Injection tubing								

**Table 4. Packer Specifications**

*[Add rows to this table if needed.]*

Packer Type and Material	Packer Setting Depth Insert units	Length Insert units	Nominal Casing Weight Insert units	Packer Main Body Outer Diameter Insert units	Packer Inner Diameter Insert units

Tensile Rating Insert units	Burst Rating Insert units	Collapse Rating Insert units	Max. Casing Inner Diameter Insert units	Min. Casing Inner Diameter Insert units

***Injection Well Construction Diagrams***

Well construction diagrams appear on **the following page(s)**.

**INSERT WELL SCHEMATIC(S)**

DRAFT

**EMERGENCY AND REMEDIAL RESPONSE PLAN**  
**40 CFR 146.94(a)**

**INSERT PROJECT NAME**

**INSTRUCTIONS**

This template provides a suggested outline for the Emergency and Remedial Response Plan. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the plan.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate maps, figures, references, etc. should also be included to support the text of the plan.

Remember that, pursuant to 40 CFR 146.94(a) of the federal Class VI Rule, the requirement to maintain and implement an approved Emergency and Remedial Response Plan is directly enforceable regardless of whether the requirement is a condition of the permit. For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

To avoid duplicative reporting, you are encouraged to provide relevant cross-references to other submissions made with the GSDT.

**Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

Plan revision number: **INSERT**

Plan revision date: **INSERT**

This Emergency and Remedial Response Plan (ERRP) describes actions that **INSERT PERMIT APPLICANT NAME** shall take to address movement of the injection fluid or formation fluid in a manner that may endanger an underground source of drinking water (USDW) during the construction, operation, or post-injection site care periods.

If **INSERT PERMIT APPLICANT NAME** obtains evidence that the injected CO<sub>2</sub> stream and/or associated pressure front may cause an endangerment to a USDW, **INSERT PERMIT APPLICANT NAME** must perform the following actions:

1. Initiate shutdown plan for the injection well.
2. Take all steps reasonably necessary to identify and characterize any release.
3. Notify the permitting agency (UIC Program Director) of the emergency event within 24 hours.
4. Implement applicable portions of the approved ERRP.

Where the phrase “initiate shutdown plan” is used, the following protocol will be employed: **INSERT PERMIT APPLICANT NAME** will immediately cease injection. However, in some circumstances, **INSERT PERMIT APPLICANT NAME** will, in consultation with the UIC Program Director, determine whether gradual cessation of injection (using the parameters set forth in the Summary of Requirements of the Class VI permit) is appropriate.

### **Local Resources and Infrastructure**

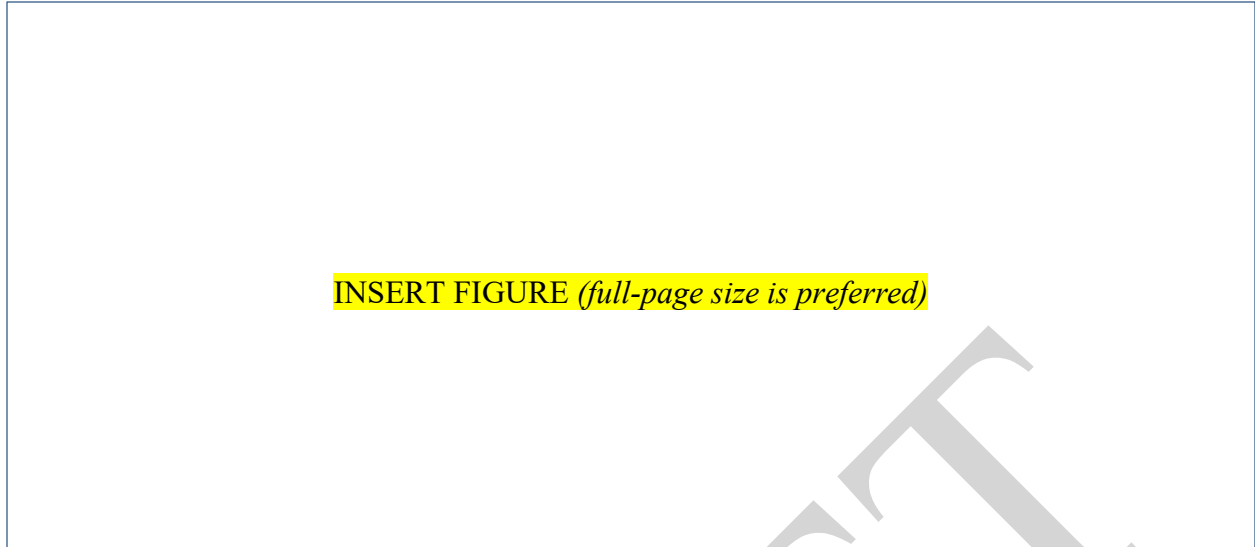
Resources in the vicinity of the **INSERT FACILITY NAME** that may be affected as a result of an emergency event at the project site include: *[Recommended considerations include relevant resources such as USDWs.]*

Infrastructure in the vicinity of the **INSERT FACILITY NAME** that that may be affected as a result of an emergency at the project site include: *[Recommended considerations include relevant infrastructure such as drinking water treatment plants.]*

Resources and infrastructure addressed in this plan are shown in Figure 1. *[Use as many figures as needed to appropriately depict resources and infrastructure addressed in this plan.]*

Plan revision number: INSERT

Plan revision date: INSERT



**Figure 1. Map of the site resources and infrastructure.**

### **Potential Risk Scenarios**

The following events related to the INSERT FACILITY NAME that could potentially result in an emergency response: *[This list is not exhaustive and is provided as an example; modify as appropriate. This list should match the scenarios described in the next section below.]*

- Injection or monitoring (verification) well integrity failure;
- Injection well monitoring equipment failure (e.g., shut-off valve or pressure gauge, etc.);
- Fluid (e.g. brine) or CO<sub>2</sub> leakage to a USDW or the surface;
- A natural disaster (e.g., earthquake, tornado, lightning strike); or
- Induced or natural seismic event.

Response actions will depend on the severity of the event(s) triggering an emergency response. “Emergency events” are categorized as shown in Table 1.

**Table 1. Degrees of risk for emergency events.** *[This table is provided as an example; modify as appropriate.]*

<b>Emergency Condition</b>	<b>Definition</b>
Major emergency	Event poses immediate substantial risk to human health, resources, or infrastructure. Emergency actions involving local authorities (evacuation or isolation of areas) should be initiated.
Serious emergency	Event poses potential serious (or significant) near term risk to human health, resources, or infrastructure if conditions worsen or no response actions taken.
Minor emergency	Event poses no immediate risk to human health, resources, or infrastructure.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

## **Emergency Identification and Response Actions**

Steps to identify and characterize the event will be dependent on the specific issue identified, and the severity of the event. The potential risk scenarios identified in Part 2 are detailed below.

*[The following sections are provided as examples. Add/delete scenarios and responses to the sections below as appropriate.]*

### ***Well Integrity Failure***

Integrity loss of the injection well and/or verification well may endanger USDWs. Integrity loss may have occurred if the following events occur:

- Automatic shutdown devices are activated:
  - Wellhead pressure exceeds the specified shutdown pressure specified in the permit.
  - Annulus pressure indicates a loss of external or internal well containment.
  - Pursuant to 40 CFR 146.91(c)(3), **INSERT PERMIT APPLICANT NAME** must notify the UIC Program Director within 24 hours of any triggering of a shut-off system (i.e., down-hole or at the service).
- Mechanical integrity test results identify a loss of mechanical integrity.

**Severity:** *[Describe the severity of the event (i.e., Low, Medium, High) based on a risk evaluation of its potential impact, and how the severity was determined.]*

**Timing of event:** *[Present the phase during which the event could occur (i.e., pre-injection, injection and/or post-injection phases).]*

**Avoidance measures:** *[Describe the planned operational practices (e.g., well maintenance, injection within permitted limits) in place to avoid the scenario.]*

**Detection methods:** *[Describe the activities (i.e., described in the Testing and Monitoring Plan or triggers based on continuous well monitoring) that would detect the event.]*

### **Potential response actions:**

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious emergency:
  - Initiate shutdown plan. *[Insert appropriate additional steps.]*
  - If contamination is detected, identify and implement appropriate remedial actions (in consultation with the UIC Program Director).

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- For a Minor emergency:
  - Conduct assessment to determine whether there has been a loss of mechanical integrity.
  - If there has been a loss of mechanical integrity, initiate shutdown plan. *[Insert appropriate additional steps.]*

**Response personnel:** *[Identify the on-call or available staff (e.g., operator staff, contractor staff) who would respond to the scenario.]*

**Equipment:** *[Describe the types of equipment (e.g., drill rig, logging equipment, and cement or casing as required) that would be used to implement the response actions described.]*

### ***Injection Well Monitoring Equipment Failure***

The failure of monitoring equipment for wellhead pressure, temperature, and/or annulus pressure may indicate a problem with the injection well that could endanger USDWs.

**Severity:** *[Describe the severity of the event (i.e., Low, Medium, High) based on a risk evaluation of its potential impact, and how the severity was determined.]*

**Timing of event:** *[Present the phase during which the event could occur (i.e., pre-injection, injection and/or post-injection phases).]*

**Avoidance measures:** *[Describe the planned operational practices (e.g., well maintenance, injection within permitted limits) in place to avoid the scenario.]*

**Detection methods:** *[Describe the activities (i.e., described in the Testing and Monitoring Plan or triggers based on continuous well monitoring) that would detect the event.]*

### **Potential Response actions:**

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious emergency:
  - Initiate shutdown plan. *[Insert appropriate additional steps.]*
  - Identify and, if necessary, implement appropriate remedial actions (in consultation with the UIC Program Director).
- For a Minor emergency:
  - Conduct assessment to determine whether there has been a loss of mechanical integrity.
  - If there has been a loss of mechanical integrity, initiate shutdown plan. *[Insert appropriate additional steps.]*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**Response personnel:** *[Identify the on-call or available staff (e.g., operator staff, contractor staff) who would respond to the scenario.]*

**Equipment:** *[Describe the types of equipment (e.g., drill rig, logging equipment, and cement or casing as required) that would be used to implement the response actions described.]*

### ***Potential Brine or CO<sub>2</sub> Leakage to USDW or the Surface***

Elevated concentrations of indicator parameter(s) in groundwater sample(s) or other evidence of fluid (brine) or CO<sub>2</sub> leakage into a USDW.

**Severity:** *[Describe the severity of the event (i.e., Low, Medium, High) based on a risk evaluation of its potential impact, and how the severity was determined.]*

**Timing of event:** *[Present the phase during which the event could occur (i.e., pre-injection, injection and/or post-injection phases).]*

**Avoidance measures:** *[Describe the planned operational practices (e.g., injection within permitted limits) in place to avoid the scenario.]*

**Detection methods:** *[Describe the activities (i.e., described in the Testing and Monitoring Plan or triggers based on continuous well monitoring) that would detect the event.]*

### **Potential Response actions:**

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For all emergencies (Major, Serious, or Minor):
  - Initiate shutdown plan.
  - *[Insert appropriate additional steps.]*
  - If the presence of indicator parameters are confirmed, develop (in consultation with the UIC Program Director) a case-specific work plan to:
    - Install additional groundwater monitoring points near the affected groundwater well(s) to delineate the extent of impact; and
    - Remediate unacceptable impacts to the affected USDW.
  - Arrange for an alternate potable water supply, if the USDW was being utilized and has been caused to exceed drinking water standards.
  - Proceed with efforts to remediate USDW to mitigate any unsafe conditions (e.g., install system to intercept/extract brine or CO<sub>2</sub> or “pump and treat” to aerate CO<sub>2</sub>-laden water).
  - Continue groundwater remediation and monitoring on a frequent basis (frequency to be determined by **INSERT PERMIT APPLICANT NAME** and the UIC Program Director) until unacceptable adverse USDW impact has been fully addressed.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**Response personnel:** *[Identify the on-call or available staff (e.g., operator staff, contractor staff) who would respond to the scenario.]*

**Equipment:** *[Describe the types of equipment (e.g., groundwater remediation equipment) that would be used to implement the response actions described.]*

### ***Natural Disaster***

Well problems (integrity loss, leakage, or malfunction) may arise as a result of a natural disaster affecting the normal operation of the injection well. An earthquake may disturb surface and/or subsurface facilities; and weather-related disasters (e.g., tornado or lightning strike) may affect surface facilities.

**Severity:** *[Describe the severity of the event (i.e., Low, Medium, High) based on a risk evaluation of its potential impact, and how the severity was determined.]*

**Timing of event:** *[Present the phase during which the event could occur (i.e., pre-injection, injection and/or post-injection phases).]*

**Avoidance measures:** N/A

**Detection methods:** N/A

### **Potential Response actions:**

If a natural disaster occurs that affects normal operation of the injection well, perform the following:

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious emergency:
  - Initiate shutdown plan. *[Insert appropriate additional steps.]*
  - If contamination or endangerment is detected, identify and implement appropriate remedial actions (in consultation with the UIC Program Director).
- For a Minor emergency:
  - Conduct assessment to determine whether there has been a loss of mechanical integrity.
  - If there has been a loss of mechanical integrity, initiate shutdown plan. *[Insert appropriate additional steps.]*

**Response personnel:** *[Identify the on-call or available staff (e.g., operator staff, contractor staff) who would respond to the scenario.]*

**Equipment:** *[Describe the types of equipment (e.g., groundwater remediation equipment, drill rig, logging equipment, and cement or casing as required) that would be used to implement the response actions described.]*

Plan revision number: INSERT

Plan revision date: INSERT

### ***Induced or Natural Seismic Event***

*[The following introductory text is provided as an example.]* Based on the project operating conditions, it is highly unlikely that injection operations would ever induce a seismic event outside an INSERT X mile radius from the wellhead. Therefore this portion of the response plan is developed for any seismic event with an epicenter within an INSERT X mile radius of the injection well.

To monitor the area for seismicity, INSERT BRIEF DESCRIPTION OF THE SEISMIC MONITORING APPROACH BASED ON THE TESTING AND MONITORING PLAN.

Based on the periodic analysis of the monitoring data, observed level of seismic activity, and local reporting of felt events, the site will be assigned an operating state. The operating state is determined using threshold criteria which correspond to the site's potential risk and level of seismic activity. The operating state provides operating personnel information about the potential risk of further seismic activity and guides them through a series of response actions.

**Severity:** *[Describe the severity of the event (i.e., Low, Medium, High) based on a risk evaluation of its potential impact, and how the severity was determined.]*

**Timing of event:** *[Present the phase during which the event could occur (i.e., pre-injection, injection and/or post-injection phases).]*

**Avoidance measures:** N/A *[Describe the planned operational practices (e.g., injection within permitted limits) in place to avoid the scenario.]*

**Detection methods:** *[Describe the activities (i.e., described in the Testing and Monitoring Plan or triggers based on continuous well monitoring) that would detect the event.]*

#### **Potential Response actions:**

The seismic monitoring system structure is presented in Table 2. The table corresponds each level of operating state with the threshold conditions and operational response actions.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**Table 2. Seismic monitoring system, for seismic events > M1.0 with an epicenter within an **INSERT X** mile radius of the injection well.**

*[This table is provided as an example; replace or modify it as appropriate.]*

Operating State	Threshold Condition <sup>1,2</sup>	Response Action <sup>3</sup>
<b>Green</b>	Seismic events less than or equal to M1.5	1. Continue normal operation within permitted levels.
<b>Yellow</b>	Five (5) or more seismic events within a 30 day period having a magnitude greater than M1.5 but less than or equal to M2.0	1. Continue normal operation within permitted levels. 2. Within 24 hours of the incident, notify the UIC Program Director of the operating status of the well.
<b>Orange</b>	Seismic event greater than M1.5 and local observation or felt report	1. Continue normal operation within permitted levels. 2. Within 24 hours of the incident, notify the UIC Program Director, of the operating status of the well.
	Seismic event greater than M2.0 and no felt report	3. Review seismic and operational data. 4. Report findings to the UIC Program Director and issue corrective actions.

<sup>1</sup> Specified magnitudes refer to magnitudes determined by local **INSERT ORGANIZATION NAME** or USGS seismic monitoring stations or reported by the USGS National Earthquake Information Center using the national seismic network.

<sup>2</sup> “Felt report” and “local observation and report” refer to events confirmed by local reports of felt ground motion or reported on the USGS “Did You Feel It?” reporting system.

<sup>3</sup> Reporting findings to the UIC Program Director and issuing corrective action will occur within 25 business days (five weeks) of change in operating state.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

Operating State	Threshold Condition <sup>1,2</sup>	Response Action <sup>3</sup>
<b>Magenta</b>	Seismic event greater than M2.0 and local observation or report	<ol style="list-style-type: none"> <li>1. Initiate rate reduction plan.</li> <li>2. Vent CO<sub>2</sub> from surface facilities.</li> <li>3. Within 24 hours of the incident, notify the UIC Program Director, of the operating status of the well.</li> <li>4. Limit access to wellhead to authorized personnel only.</li> <li>5. Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary. <i>[Insert additional appropriate steps.]</i></li> <li>6. Monitor well pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any failure; identify and implement appropriate remedial actions (in consultation with the UIC Program Director).</li> <li>7. Determine if leaks to ground water or surface water occurred.</li> <li>8. If USDW contamination is detected:               <ol style="list-style-type: none"> <li>a. Notify the UIC Program Director within 24 hours of the determination.</li> <li>b. <i>[Insert additional appropriate steps.]</i></li> </ol> </li> <li>9. Review seismic and operational data.</li> <li>10. Report findings to the UIC Program Director and issue corrective actions.</li> </ol>
<b>Red</b>	Seismic event greater than M2.0, and local observation or report, and local report and confirmation of damage <sup>4</sup>  Seismic event >M3.5	<ol style="list-style-type: none"> <li>1. Initiate shutdown plan.</li> <li>2. Vent CO<sub>2</sub> from surface facilities.</li> <li>3. Within 24 hours of the incident, notify the UIC Program Director of the operating status of the well.</li> <li>4. Limit access to wellhead to authorized personnel only.</li> <li>5. Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary.</li> <li>6. Monitor well pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any failure; identify and implement appropriate remedial actions (in consultation with the UIC Program Director). <i>[Insert additional appropriate steps.]</i></li> <li>7. Determine if leaks to ground water or surface water occurred.</li> <li>8. If USDW contamination is detected:               <ol style="list-style-type: none"> <li>a. Notify the UIC Program Director within 24 hours of the determination.</li> <li>b. <i>[Insert additional appropriate steps.]</i></li> </ol> </li> <li>9. Review seismic and operational data.</li> <li>10. Report findings to the UIC Program Director and issue corrective actions.</li> </ol>

<sup>4</sup> Onset of damage is defined as cosmetic damage to structures, such as bricks dislodged from chimneys and parapet walls, broken windows, and fallen objects from walls, shelves, and cabinets.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**Response personnel:** *[Identify the on-call or available staff (e.g., operator staff, contractor staff) who would respond to the scenario.]*

**Equipment:** *[Describe the types of equipment (e.g., groundwater remediation equipment, drill rig, logging equipment, and cement or casing as required) that would be used to implement the response actions described.]*

### **Response Personnel and Equipment**

Site personnel, project personnel, and local authorities will be relied upon to implement this ERRP.

Site personnel to be notified (not listed in order of notification): *[This list is provided as an example; modify as appropriate to include all appropriate facility staff and their titles/roles.]*

1. Project Engineer(s)
2. Plant Safety Manager(s)
3. Environmental Manager(s)
4. Plant Manager
5. Plant Superintendent

A site-specific emergency contact list will be developed and maintained during the life of the project. **INSERT PERMIT APPLICANT NAME** will provide the current site-specific emergency contact list to the UIC Program Director.

**Table 3. Contact information for key local, state, and other authorities.** *[The organizations in this table are provided as examples.]*

<b>Agency</b>	<b>Phone Number</b>
Local police	
State police	
State emergency management agency	
Environmental services contractor	
UIC Program Director	
EPA National Response Center (24 hours)	800-424-8802
State geological survey	
<b>INSERT add rows as needed</b>	

Equipment needed in the event of an emergency and remedial response will vary, depending on the triggering emergency event. Response actions (cessation of injection, well shut-in, and evacuation) will generally not require specialized equipment to implement. Where specialized equipment (such as a drilling rig or logging equipment) is required, **INSERT NAME OR ORGANIZATION** shall be responsible for its procurement.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

## **Emergency Communications Plan**

*[The following items are provided as examples. Add/delete/expand upon the activities the activities listed below to describe public communication in the event of an emergency.]*

**INSERT PERMIT APPLICANT NAME** will communicate to the public about any event that requires an emergency response to ensure that the public understands what happened and whether or not there are any environmental or safety implications. The amount of information, timing, and communications method(s) will be appropriate to the event, its severity, whether any impacts to drinking water or other environmental resources occurred, any impacts to the surrounding community, and their awareness of the event.

**INSERT PERMIT APPLICANT NAME** will describe what happened, any impacts to the environment or other local resources, how the event was investigated, what responses were taken, and the status of the response. For responses that occur over the long-term (e.g., ongoing cleanups), **INSERT PERMIT APPLICANT NAME** will provide periodic updates on the progress of the response action(s).

**INSERT PERMIT APPLICANT NAME** will also communicate with entities who may need to be informed about or take action in response to the event, including local water systems, CO2 source(s) and pipeline operators, land owners, and Regional Response Teams (as part of the National Response Team).

## **Plan Review**

This ERRP shall be reviewed:

- At least once every five (5) years following its approval by the permitting agency;
- Within one (1) year of an area of review (AOR) reevaluation;
- Within **INSERT TIME** following any significant changes to the injection process or the injection facility, or an emergency event; or
- As required by the permitting agency.

If the review indicates that no amendments to the ERRP are necessary, **INSERT PERMIT APPLICANT NAME** will provide the permitting agency with the documentation supporting the “no amendment necessary” determination.

If the review indicates that amendments to the ERRP are necessary, amendments shall be made and submitted to the permitting agency within **INSERT TIME** following an event that initiates the ERRP review procedure.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

## **Staff Training and Exercise Procedures**

*[Recommended considerations include:*

- *What training or drill procedures will be implemented? (For example, provide a list of steps or similar description, or attach a manual if available.)*
- *Who will receive the training and how often will it be provided?]*
- *What training or drill procedures will be implemented? (For example, provide a list of steps or similar description, or attach a manual if available.)*

DRAFT

**FINANCIAL ASSURANCE DEMONSTRATION  
40 CFR 146.85**

**INSERT PROJECT NAME**

**INSTRUCTIONS**

This template provides a suggested outline and recommendations for the financial assurance demonstration.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns).

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>.

**Facility Information**

Facility name: **INSERT FACILITY NAME  
INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE  
INSERT ADDRESS  
INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE  
INSERT LAT/LONG COORDINATES**

**INSERT PERMIT APPLICANT** is providing financial responsibility pursuant to 40 CFR 146.85. **INSERT PERMIT APPLICANT** is using a **INSERT MECHANISM(S)** to cover the costs of: corrective action, emergency and remedial response, injection well plugging, post-injection site care, and site closure.

The estimated costs of each of these activities, as provided by **INSERT PERMIT APPLICANT**, are presented in Table 1.

**Table 1. Cost Estimates for Activities to be Covered by Financial Responsibility.**

Activity	Total Cost (\$)
Corrective Action	
Plugging Injection Wells	
Post-Injection Site Care	
Site Closure	
Emergency and Remedial Response	

*[Insert or attach the instrument text.*

*If a pay-in schedule is applicable to any instruments/activities, present this information as well.]*

DRAFT

Plan revision number: **INSERT**  
Plan revision date: **INSERT**

## POST-INJECTION SITE CARE AND SITE CLOSURE PLAN 40 CFR 146.93(a)

### **INSERT PROJECT NAME**

#### INSTRUCTIONS

This template provides a suggested outline and recommendations for the Post-Injection Site Care (PISC) and Site Closure Plan. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the plan.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate maps, figures, references, etc. should also be included to support the text of the plan.

Remember that, pursuant to 40 CFR 146.94(a) of the federal Class VI Rule, the requirement to maintain and implement an approved PISC and Site Closure Plan is directly enforceable regardless of whether the requirement is a condition of the permit. For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

To avoid duplicative reporting, you are encouraged to provide relevant cross-references to other submissions made with the GSĐT.

#### **Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

Plan revision number: **INSERT**

Plan revision date: **INSERT**

This Post-Injection Site Care (PISC) and Site Closure plan describes the activities that **INSERT PERMIT APPLICANT NAME** will perform to meet the requirements of 40 CFR 146.93. **INSERT PERMIT APPLICANT NAME** will monitor ground water quality and track the position of the carbon dioxide plume and pressure front for **INSERT PISC TIMEFRAME**. **INSERT PERMIT APPLICANT NAME** may not cease post-injection monitoring until a demonstration of non-endangerment of USDWs has been approved by the UIC Program Director pursuant to 40 CFR 146.93(b)(3). Following approval for site closure, **INSERT PERMIT APPLICANT NAME** will plug all monitoring wells, restore the site to its original condition, and submit a site closure report and associated documentation.

### **Pre- and Post-Injection Pressure Differential [40 CFR 146.93(a)(2)(i)]**

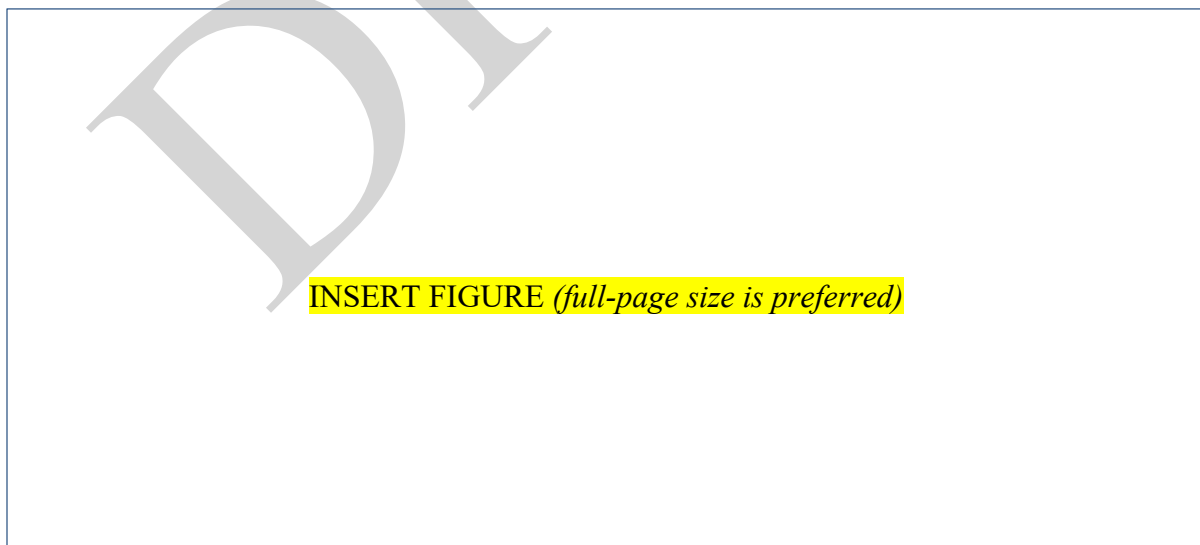
Based on the modeling of the pressure front as part of the AoR delineation, pressure at the injection well is expected to decrease to pre-injection levels by **INSERT TIME**, as described below. Additional information on the projected post-injection pressure declines and differentials is presented in the permit application and the AoR and Corrective Action Plan.

*[Recommended considerations include:*

- *At what rate is pressure expected to decline at the injection and monitoring wells?*
- *What is the maximum predicted injection pressure differential over the life of the project? When does that occur?]*

### **Predicted Position of the CO<sub>2</sub> Plume and Associated Pressure Front at Site Closure [40 CFR 146.93(a)(2)(ii)]**

Figure 1 shows the predicted extent of the plume and pressure front at the end of the PISC timeframe, representing the maximum extent of the plume and pressure front. This map is based on the final AoR delineation modeling results submitted pursuant to 40 CFR 146.84.



**Figure 1. Map of the predicted extent of the CO<sub>2</sub> plume and pressure front at site closure.**

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### **Post-Injection Monitoring Plan [40 CFR 146.93(b)(1)]**

Performing **INSERT PLANNED MONITORING METHODS** as described in the following sections during the post-injection phase will meet the requirements of 40 CFR 146.93(b)(1). The results of all post-injection phase testing and monitoring will be submitted annually, within **INSERT TIME**, as described under “Schedule for Submitting Post-Injection Monitoring Results,” below.

*[Recommended considerations include:*

- *Briefly describe the types of monitoring that will be employed. What wells/monitoring sites will be used? Where are they located? What subsurface zones do they target?*
- *How will access be guaranteed to the monitoring wells?]*

*[Please reference or attach a quality assurance and surveillance plan (QASP) for all testing and monitoring activities, e.g., as described in/attached to the Testing and Monitoring Plan.]*

#### **Monitoring Above the Confining Zone**

Table 1 presents the monitoring methods, locations, and frequencies for monitoring above the confining zone. Table 2 identifies the parameters to be monitored and the analytical methods **INSERT PERMIT APPLICANT NAME** will employ.

*[Recommended considerations include:*

- *What is the specific schedule for each monitoring activity? For example, “Logging will take place up to 45 days before the anniversary date of authorization of injection each year or will be alternatively scheduled with the prior approval of the UIC Program Director.”*
- *Will monitoring locations/frequencies be fixed or adaptive (e.g., according to the evolution and growth of the plume)? What specific, quantitative triggers or timeframes will be used for phased or adaptive monitoring?*
- *What is the depth or elevation below mean sea level of each monitoring interval? What gauges or other equipment will be used? What is the range, precision, etc. of the equipment?*
- *What type(s) of data or output will result from each monitoring method?*
- *For continuous monitoring methods, how often will data be sampled and recorded? (Refer to Table 3.)*
- *For methods involving fluid sample collection (refer to the QASP as necessary):*
  - *What materials will be used? What sample collection procedures will be implemented to ensure a representative sample?*
  - *Where will sample analysis be conducted? What chain of custody procedures will be implemented?*
  - *What are the detection limits for the analytical methods that will be used?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *How will it be determined if data deviate from baseline, predicted, or average values?]*

**Table 1. Monitoring of ground water quality and geochemical changes above the confining zone.**

*[If indirect monitoring techniques such as logging will be used to complement direct fluid sampling, they can also be included in this table.]*

Target Formation	Monitoring Activity	Monitoring Location(s)	Spatial Coverage	Frequency
<b>INSERT Formation 1</b>				
<b>INSERT Formation 2</b>				
<b>INSERT Formation 3</b>				
<i>Add more rows as needed</i>				

**Table 2. Summary of analytical and field parameters for ground water samples.**

Parameters	Analytical Methods
<b>INSERT FORMATION NAME</b>	
<b>INSERT Parameter 1</b>	
<b>INSERT Parameter 2</b>	
<b>INSERT Parameter 3</b>	
<i>Add more rows as needed</i>	
<b>INSERT FORMATION NAME</b>	
<b>INSERT Parameter 1</b>	
<b>INSERT Parameter 2</b>	
<b>INSERT Parameter 3</b>	
<i>Add more rows as needed</i>	

Plan revision number: **INSERT**  
 Plan revision date: **INSERT**

**Table 3. Sampling and recording frequencies for continuous monitoring.**

Parameter	Device(s)	Location	Min. Sampling Frequency	Min. Recording Frequency
<b>INSERT Parameter 1</b>				
<b>INSERT Parameter 2</b>				
<b>INSERT Parameter 3</b>				
<i>Add more rows as needed</i>				

Notes:

- Sampling frequency refers to how often the monitoring device obtains data from the well for a particular parameter. For example, a recording device might sample a pressure transducer monitoring injection pressure once every two seconds and save this value in memory.
- Recording frequency refers to how often the sampled information gets recorded to digital format (such as a computer hard drive). For example, the data from the injection pressure transducer might be recorded to a hard drive once every minute.

***Carbon Dioxide Plume and Pressure Front Tracking [40 CFR 146.93(a)(2)(iii)]***

**INSERT PERMIT APPLICANT NAME** will employ direct and indirect methods to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure.

Table 4 presents the direct and indirect methods that **INSERT PERMIT APPLICANT NAME** will use to monitor the CO<sub>2</sub> plume, including the activities, locations, and frequencies **INSERT PERMIT APPLICANT NAME** will employ. The parameters to be analyzed as part of fluid sampling in the **INSERT INJECTION ZONE NAME** (and associated analytical methods) are presented in Table 5.

Table 6 presents the direct and indirect methods that **INSERT PERMIT APPLICANT NAME** will use to monitor the pressure front, including the activities, locations, and frequencies **INSERT PERMIT APPLICANT NAME** will employ.

Fluid sampling will be performed as described in **INSERT SECTION** of the QASP; sample handling and custody will be performed as described in **INSERT SECTION** of the QASP; and quality control will be ensured using the methods described in **INSERT SECTION** of the QASP. Quality assurance procedures for seismic monitoring methods are presented in **INSERT SECTION** of the QASP.

*[Recommended considerations include:*

- *What is the specific schedule for each monitoring activity? For example, “Logging will take place up to 45 days before the anniversary date of authorization of injection each year or will be alternatively scheduled with the prior approval of the UIC Program Director.”*
- *Will monitoring locations/frequencies be fixed or adaptive (e.g., according to the evolution of the plume)? What specific, quantitative triggers or timeframes will be used for phased or adaptive monitoring?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *What is the depth or elevation below mean sea level of each monitoring interval?*
- *What type(s) of data or output will result from each monitoring method?*
- *What gauges or other equipment will be used? What is the range, precision, etc. of the equipment?*
- *For continuous monitoring methods, how often will data be sampled and recorded? (Refer to Table 4.)*
- *How will it be determined if data deviate from baseline, predicted, or average values?*
- *How will the various monitoring results be synthesized to monitor the extent of the plume and pressure front, verify the AoR delineation, and support the non-endangerment demonstration ? (Refer to the “Non-Endangerment Demonstration Criteria” section as needed.)]*

**Table 4. Post-injection phase plume monitoring.**

Target Formation	Monitoring Activity	Monitoring Location(s)	Spatial Coverage	Frequency
<b>DIRECT PLUME MONITORING</b>				
<b>INSERT Formation 1</b>				
<b>INSERT Formation 2</b>				
<b>INSERT Formation 3</b>				
<i>Add more rows as needed</i>				
<b>INDIRECT PLUME MONITORING</b>				
<b>INSERT Formation 1</b>				
<b>INSERT Formation 2</b>				
<b>INSERT Formation 3</b>				
<i>Add more rows as needed</i>				

**Table 5. Summary of analytical and field parameters for fluid sampling in the injection zone.**

Parameters	Analytical Methods
<b>INSERT FORMATION NAME</b>	
<b>INSERT Parameter 1</b>	
<b>INSERT Parameter 2</b>	
<b>INSERT Parameter 3</b>	
<i>Add more rows as needed</i>	

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**Table 6. Post-injection phase pressure-front monitoring.**

Target Formation	Monitoring Activity	Monitoring Location(s)	Spatial Coverage	Frequency
<b>DIRECT PRESSURE-FRONT MONITORING</b>				
<b>INSERT Formation 1</b>				
<b>INSERT Formation 2</b>				
<b>INSERT Formation 3</b>				
<i>Add more rows as needed</i>				
<b>INDIRECT PRESSURE-FRONT MONITORING</b>				
<b>INSERT Formation 1</b>				
<b>INSERT Formation 2</b>				
<b>INSERT Formation 3</b>				
<i>Add more rows as needed</i>				

***Schedule for Submitting Post-Injection Monitoring Results [40 CFR 146.93(a)(2)(iv)]***

All post-injection site care monitoring data and monitoring results collected using the methods described above will be submitted to EPA in reports submitted on **INSERT SCHEDULE**. The reports will contain information and data generated during the reporting period; i.e. well-based monitoring data, sample analysis, and the results from updated site models.

*[Recommended considerations include:*

- When and at what frequency will results be reported to EPA?]*

**Alternative Post-Injection Site Care Timeframe [40 CFR 146.93(c)]**

*[Note: Only include this section if you are requesting an alternative PISC timeframe.*

*For each section listed below, please provide a brief narrative description of how data and calculations support a demonstration of an alternative PISC timeframe. The information needed to support the demonstration of the alternative PISC timeframe may be included in other sections of the permit application. In this section, please describe the relevant information in the context of the alternative PISC timeframe to demonstrate that the alternative timeframe is appropriate given site-specific geologic and hydrologic conditions and the results of AoR modeling. Include specific cross-references to other plans (e.g., AoR and Corrective Action, Testing and Monitoring) and the permit application/associated submissions, as appropriate to avoid duplicative reporting. Figures should be included to supplement the narrative description of the alternative PISC timeframe when appropriate. Supporting documentation, references, etc. can be uploaded to the Alternative PISC Timeframe Demonstration module of the GSDT. Using this module will help to ensure that information is submitted to fulfil all relevant requirements.]*

**INSERT PERMIT APPLICANT NAME** will conduct post-injection monitoring for **INSERT TIMEFRAME** following the cessation of injection operations. A justification for this alternative

Plan revision number: **INSERT**

Plan revision date: **INSERT**

PISC timeframe is provided below. Regardless of the alternative PISC timeframe, monitoring and reporting as described in the sections above will continue until **INSERT PERMIT APPLICANT NAME** demonstrates, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the project does not pose an endangerment to any USDWs, per the requirements at 40 CFR 146.93(b)(2) or (3).

### **Computational Modeling Results – 40 CFR 146.93(c)(1)(i)**

*[Recommended considerations include:*

- *How are the plume and pressure expected to evolve over time during the proposed timeframe?*
- *What are the results of sensitivity analyses performed on the AoR model? What parameters contribute to model uncertainty? How/to what extent will this uncertainty be addressed through testing and monitoring activities?*
- *How do proposed operational conditions support the alternative PISC timeframe demonstration?]*

*[Associated figures may include:*

- *Maps showing the predicted extent of the plume and pressure front during the alternative PISC timeframe.*
- *Cross sections showing the temporal evolution of the carbon dioxide plume and pressure front during the post-injection phase, specifically upward migration, and other related figures to present predicted system behavior during the post-injection phase.*
- *Results of sensitivity analyses (e.g., in charts or maps). Note that sensitivity analysis of computational modeling is required for an alternative PISC timeframe demonstration. EPA recommends that a description of the methods used for sensitivity analysis be included in the AoR and Corrective Action Plan.]*

### **Predicted Timeframe for Pressure Decline – 40 CFR 146.93(c)(1)(ii)**

*[Recommended considerations include:*

- *What is the maximum spatial extent of the pressure front? When is this predicted to be reached?*
- *How rapidly is pressure predicted to decline following cessation of injection? Is pressure decline homogenous or heterogeneous within the AoR?*
- *Based on sensitivity analyses, what parameters affect predicted pressure decline and to what extent?*
- *If site-specific pressure monitoring data are available, how do they support the alternative PISC timeframe demonstration? (For plan amendments made during the injection or post-injection phases.)]*

*[Associated figures may include:*

- *Maps and cross sections showing the location of the pressure front at relevant time intervals during the post-injection phase.*
- *Time-series charts showing pressure buildup during injection and pressure falloff during the post-injection phase. These plots should include an indication of important threshold values, such as critical pressure, pre-injection pressure levels, or a predicted steady-state level.*
- *Pressure decline profiles at specific locations (e.g., injection well, monitoring wells, etc.) over time.*
- *Results of sensitivity analyses with respect to pressure (charts or maps).]*

**Predicted Rate of Plume Migration – 40 CFR 146.93(c)(1)(iii)**

*[Recommended considerations include:*

- *What is the maximum spatial extent of the plume? When is this predicted to be reached?*
- *What is the predicted plume migration rate during the injection and post-injection phases? When is the plume migration rate expected to be effectively zero?*
- *Based on sensitivity analyses, what parameters affect predicted plume migration and to what extent?*
- *If site-specific monitoring data are available, how do direct and indirect plume monitoring results compare to AoR predictions? (For plan amendments made during the injection or post-injection phases.)]*

*[Associated figures may include:*

- *Maps and cross sections showing the location of the plume at relevant time intervals during the post-injection phase.*
- *Predicted CO<sub>2</sub> saturation profiles at specific locations (e.g., injection well, monitoring wells, etc.) over time.]*

**Site-Specific Trapping Processes – 40 CFR 146.93(c)(1)(iv)-(vi)**

*[The trapping processes described here should match those accounted for during the delineation of the AoR. The discussion of trapping processes and rates should incorporate computational modeling and reflect the conceptual geological model of the site. Trapping predictions should be based on the most recent AoR reevaluation, if applicable.*

*Recommended considerations include:*

- *What are the physical and chemical trapping processes considered for this project?*
- *How were trapping rates determined? What sources of data were used to estimate or calculate trapping rates? Provide citations to literature as necessary.*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *What parameters were used to estimate trapping rates? What assumptions were used for estimation?*
- *Do trapping rates or the primary trapping processes change over time throughout the lifetime of the project?*
- *Is there the potential for CO<sub>2</sub> mineralization due to site-specific geochemistry? What processes control this mineralization? What is the expected extent of mineralization? (Note: If mineralization is considered a major trapping process, make sure to account for this during AoR modeling and delineation.)]*

*[Associated figures or attachments may include:*

- *Laboratory analysis reports (or a cross-reference to materials submitted elsewhere).*
- *Tables and/or graphs for key trapping mechanisms (e.g., capillary trapping, mineralization) showing trapping rates over time.*
- *Graphs showing the proportion of CO<sub>2</sub> in each phase (gas, aqueous, trapped) over time.]*

#### **Confining Zone Characterization – 40 CFR 146.93(c)(1)(vii)**

*[Recommended considerations include:*

- *What site-specific confining zone characteristics support the demonstration of the alternative PISC timeframe?*
- *What are the characteristics of the regions of the confining zone predicted to come into contact with the CO<sub>2</sub> plume or mobilized fluids? Are these characteristics expected to change over time? Are there any effects of prolonged contact with CO<sub>2</sub> or mobilized fluids?*
- *How were the results of confining zone characterization used in computational modeling? How do they relate to pressure decline, plume migration, and trapping?*
- *If available, how do the results of testing and monitoring support the site characterization? Are there discrepancies between the site characterization conducted for the permit application (40 CFR 164.82(a)(3)(ii) and (iii)) and the results of testing and monitoring or pre-operational testing? (For plan amendments made during the injection or post-injection phases.)]*

#### **Assessment of Fluid Movement Potential – 40 CFR 146.93(c)(1)(viii)-(ix)**

*[The description of the potential for fluid movement through conduits should also include information on the construction and plugging of any abandoned wells in the AoR. This should include an assessment of any corrective action performed on those wells, as defined in the AoR and Corrective Action Plan.*

*Recommended considerations include:*

- *Are there any wells in the AoR that could potentially act as conduits for fluid movement? If so, have they been plugged? If not, what corrective action is planned?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *Is the CO<sub>2</sub> plume (or mobilized fluids) predicted to reach any potential conduits after the cessation of injection? How long is it expected to take the plume to reach those conduits? What corrective action is planned?*
- *What plugging methods were used for abandoned wells within the AoR? What construction methods were used?*
- *How will the proposed injection well construction ensure protection of USDWs after the cessation of injection?]*

*[Associated figures or attachments may include:*

- *Map of all wells within the AoR (or a cross-reference to a map submitted elsewhere) including locations and depth.*
- *Relevant construction, plugging, or testing documentation (or cross-references to materials submitted elsewhere).*
- *Testing and monitoring results relevant to well integrity (e.g., internal and external MITs, indirect monitoring results, etc.). (This item applies to plan amendments made during the injection or post-injection phases.)]*

#### **Location of USDWs – 40 CFR 146.93(c)(1)(x)**

*[Recommended considerations include:*

- *How far (vertically and laterally) is the injection zone from the nearest USDW (above and/or below)? How far is the nearest USDW from the predicted maximum plume extent?*
- *How was the location of the lowermost USDW determined? How did other factors (e.g., pressure and plume migration analysis, trapping processes and rates, potential conduits for fluid movement) contribute to the evaluation of USDW location relative to the CO<sub>2</sub> plume?*
- *In the context of an alternative PISC timeframe, how does the information presented in the sections above relate to the distance between the CO<sub>2</sub> plume and the nearest USDW? How do these relationships help demonstrate the alternative PISC timeframe?]*

#### **Non-Endangerment Demonstration Criteria**

Prior to approval of the end of the post-injection phase, **INSERT PERMIT APPLICANT NAME** will submit a demonstration of non-endangerment of USDWs to the UIC Program Director, per 40 CFR 146.93(b)(2) and (3).

The owner or operator will issue a report to the UIC Program Director. This report will make a demonstration of USDW non-endangerment based on the evaluation of the site monitoring data used in conjunction with the project's computational model. The report will detail how the non-endangerment demonstration evaluation uses site-specific conditions to confirm and demonstrate non-endangerment. The report will include all relevant monitoring data and interpretations upon which the non-endangerment demonstration is based, model documentation and all supporting data, and any other information necessary for the UIC

Plan revision number: **INSERT**

Plan revision date: **INSERT**

Program Director to review the analysis. The report will include the following sections:

### ***Introduction and Overview***

A summary of relevant background information will be provided, including the operational history of the injection project, the date of the non-endangerment demonstration relative to the post-injection period outlined in this PISC and Site Closure Plan, and a general overview of how monitoring and modeling results will be used together to support a demonstration of USDW non-endangerment.

### ***Summary of Existing Monitoring Data***

A summary of all previous monitoring data collected at the site, pursuant to the Testing and Monitoring Plan of this permit and this PISC and Site Closure Plan, including data collected during the injection and post-injection phases of the project, will be submitted to help demonstrate non-endangerment. Data submittals will be in a format acceptable to the UIC Program Director [40 CFR 146.91(e)], and will include a narrative explanation of monitoring activities, including the dates of all monitoring events, changes to the monitoring program over time, and an explanation of all monitoring infrastructure that has existed at the site. Data will be compared with baseline data collected during site characterization [40 CFR 146.82(a)(6) and 146.87(d)(3)].

*[Note: EPA recommends that, for the remaining subsections, applicants consider how site-specific information be used to make a non-endangerment demonstration. On what criteria will the demonstration be based? Add or adjust sections as necessary to include all planned methods/strategies.]*

### ***Summary of Computational Modeling History***

*[Recommended considerations include:*

- *What computational modeling results may be used to demonstrate non-endangerment?*
- *What types of data will be used to compare modeling and monitoring results?*
- *What will the specific metrics of comparison be? How will agreement be demonstrated?*
- *If there is major disagreement between monitoring and modeling results at the time of the demonstration, how will that be reconciled?]*

### ***Evaluation of Reservoir Pressure***

*[Recommended considerations include:*

- *What types of data will be used to evaluate the extent of the pressure front?*
- *How will this information be compared to model predictions?]*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### ***Evaluation of Carbon Dioxide Plume***

*[Recommended considerations include:*

- *What types of data will be used to evaluate the extent of the CO<sub>2</sub> plume?*
- *How will this information be compared to model predictions?]*

### ***Evaluation of Emergencies or Other Events***

*[Recommended considerations include:*

- *What types of data will be used to demonstrate that mobilized formation fluids do not pose a danger to USDWs?*
- *How will this information be compared to model predictions?*
- *What are the nearest artificial penetrations or other potential conduits?*
- *Where are they located with respect to the position of the plume and pressure front?*
- *How will the quality of well construction and plugging for artificial penetrations be evaluated?]*

### **Site Closure Plan**

**INSERT PERMIT APPLICANT NAME** will conduct site closure activities to meet the requirements of 40 CFR 146.93(e) as described below. **INSERT PERMIT APPLICANT NAME** will submit a final Site Closure Plan and notify the permitting agency at least 120 days prior of its intent to close the site. Once the permitting agency has approved closure of the site, **INSERT PERMIT APPLICANT NAME** will plug the monitoring wells and submit a site closure report to EPA. The activities, as described below, represent the planned activities based on information provided to EPA. The actual site closure plan may employ different methods and procedures. A final Site Closure Plan will be submitted to the UIC Program Director for approval with the notification of the intent to close the site.

### ***Plugging Monitoring Wells***

*[Recommended considerations include:*

- *What are the specific procedures that will be followed? (Provide a detailed list of steps and a representative schematic.)*
- *What materials will be used for plugging (type, quantity, etc.)?*
- *What methods will be used for volume calculations?*
- *What well tests will be conducted before plugging?*
- *What other associated activities will be conducted (e.g., infrastructure removal or site restoration in compliance with state or local requirements)?]*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### ***Site Closure Report***

A site closure report will be prepared and submitted within 90 days following site closure, documenting the following *[add detail to the text below, as appropriate]*:

- Plugging of the verification and geophysical wells (and the injection well if it has not previously been plugged),
- Location of sealed injection well on a plat of survey that has been submitted to the local zoning authority,
- Notifications to state and local authorities as required at 40 CFR 146.93(f)(2),
- Records regarding the nature, composition, and volume of the injected CO<sub>2</sub>, and
- Post-injection monitoring records.

**INSERT PERMIT APPLICANT NAME** will record a notation to the property's deed on which the injection well was located that will indicate the following *[add detail to the text below, as appropriate]*:

- That the property was used for carbon dioxide sequestration,
- The name of the local agency to which a plat of survey with injection well location was submitted,
- The volume of fluid injected,
- The formation into which the fluid was injected, and
- The period over which the injection occurred.

The site closure report will be submitted to the permitting agency and maintained by the owner or operator for a period of 10 years following site closure. Additionally, the owner or operator will maintain the records collected during the post-injection period for a period of 10 years after which these records will be delivered to the UIC Program Director.

Plan revision number: **INSERT**  
Plan revision date: **INSERT**

## INJECTION WELL PLUGGING PLAN 40 CFR 146.92(b)

**INSERT PROJECT NAME**

### INSTRUCTIONS

This template provides a suggested outline and recommendations for the Injection Well Plugging Plan. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the plan.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate figures, references, etc. should also be included to support the text of the plan.

Remember that, pursuant to 40 CFR 146.94(a) of the federal Class VI Rule, the requirement to maintain and implement an approved Injection Well Plugging Plan is directly enforceable regardless of whether the requirement is a condition of the permit. For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

To avoid duplicative reporting, you are encouraged to provide relevant cross-references to other submissions made with the GSĐT.

### **Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**INSERT PERMIT APPLICANT NAME** will conduct injection well plugging and abandonment according to the procedures below.

### **Planned Tests or Measures to Determine Bottom-Hole Reservoir Pressure**

*[Recommended considerations include:*

- *What tests or methods will be used to determine bottom-hole reservoir pressure? (Provide a list of steps or similar description.)]*

### **Planned External Mechanical Integrity Test(s)**

**INSERT PERMIT APPLICANT NAME** will conduct at least one of the tests listed in Table 1 to verify external mechanical integrity prior to plugging the injection well as required by 40 CFR 146.92(a).

*[Recommended considerations include:*

- *What are the specific procedures that will be followed for each type of test? (Provide a list of steps or similar description.)*
- *What gauges or other equipment will be used? What is the range, precision, etc. of the equipment?*
- *What will constitute a “pass” or “fail” for each test?]*

**Table 1. Planned MITs.**

<b>Test Description</b>	<b>Location</b>
<b>INSERT Test 1</b>	
<b>INSERT Test 2</b>	
<b>INSERT Test 3</b>	
<i>Add rows as needed</i>	

### **Information on Plugs**

**INSERT PERMIT APPLICANT NAME** will use the materials and methods noted in Table 2 to plug the injection well. The volume and depth of the plug or plugs will depend on the final geology and downhole conditions of the well as assessed during construction. The cement(s) formulated for plugging will be compatible with the carbon dioxide stream. The cement formulation and required certification documents will be submitted to the agency with the well plugging plan. The owner or operator will report the wet density and will retain duplicate samples of the cement used for each plug.

*[Recommended considerations include:*

- *What methods will be used for volume calculations?]*

Plan revision number: INSERT

Plan revision date: INSERT

**Table 2. Plugging details.**

Plug Information	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7
Diameter of boring in which plug will be placed (Insert units)							
Depth to bottom of tubing or drill pipe (Insert units)							
Sacks of cement to be used							
Slurry volume to be pumped (Insert units)							
Slurry weight (lb./gal)							
Calculated top of plug (Insert units)							
Bottom of plug (Insert units)							
Type of cement or other material							
Method of emplacement (e.g., balance method, retainer method, or two-plug method)							

**Narrative Description of Plugging Procedures**

***Notifications, Permits, and Inspections***

In compliance with 40 CFR 146.92(c), INSERT PERMIT APPLICANT NAME will notify the regulatory agency at least 60 days before plugging the well and provide updated Injection Well Plugging Plan, if applicable.

*[Recommended considerations include:*

- Will any other notifications, permits, or inspections be needed?]*

***Plugging Procedures***

*[Recommended considerations include:*

- What are the specific procedures that will be followed? (Provide a detailed list of steps and a representative schematic.)*
- What contingency procedures/measures will be used?]*

**CLASS VI PRE-OPERATION NARRATIVE**  
**40 CFR 146.82(c)**

**INSERT PROJECT NAME**

**INSTRUCTIONS**

To reduce the potential for redundancy and to organize pre-operational information in a manner that facilitates efficient review by the permitting authority, EPA recommends that Class VI owners or operators submit both:

1. A narrative describing updated site characterization information, synthesizing the results of pre-operational logging and testing, and other general project information (compiled into a single file and submitted using the Project Information Tracking module of the GSDT).
2. Specific, detailed information required by certain Class VI Rule provisions (submitted using other GSDT modules, which are tailored to the applicable Class VI Rule requirements).

This template provides a suggested outline for the narrative component of the pre-operational submissions. Permittees are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in this narrative.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific narrative development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate maps, figures, references, etc. should also be included to support the text. If desired, appendices, attachments, or other supplemental information associated with the narrative that do not fit into one of the specific GSDT modules can be uploaded directly to the Project Information Tracking module using the module field designated for "any other information requested by the UIC Program Director."

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>.

This narrative file does not need to repeat any information submitted with the GSDT, but it should clearly reference these other submissions to ensure that all Class VI requirements are met. EPA recommends that you review the GSDT modules and/or user guides for each topic area below before developing your narrative, to avoid duplicating efforts or information.

After completing the narrative, upload it to the Project Information Tracking GSDT module, on the Updated Information tab. EPA recommends converting to PDF prior to uploading.

## **Project Background Information**

*[In this section, please update proposed project information as necessary to reflect information collected during pre-operational testing and logging. Specifically, please indicate if changes are made to the project timeframe, proposed injection mass/volume, CO<sub>2</sub> source, or CO<sub>2</sub> composition.]*

*Key project and facility details can be updated directly in the Project Information Tracking module of the GSDT.]*

### **GSDT Submission - Project Background and Contact Information**

**GSDT Module:** Project Information Tracking

**Tab(s):** General Information tab; Facility Information and Owner/Operator Information tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Required project and facility details **[40 CFR 146.82(a)(1)]**

NO UPDATES NECESSARY

## **Final AoR Model and Delineation [40 CFR 146.82(c)(1)]**

*[Please provide a short description of the information and files submitted to the GSDT related to the final AoR model and delineation that incorporates the results of pre-operational testing and logging, with references to the rule requirements those submissions satisfy. If there is additional information that could not be submitted using the forms in the GSDT, it can be included here.]*

*Recommended considerations include:*

- *How does the final AoR delineation based on site-specific well data compare to the original modeling effort?*
- *How were pre-operational testing and logging results incorporated into the final AoR model? What, if any, data from the original permit application were used in the updated AoR model?*
- *What might be the cause(s) of differences between the model results?*
- *Do the results of the final AoR modeling effort indicate that changes to operational procedures (e.g., injection rate, injection pressure) are necessary?*
- *Does the updated AoR include any additional wells/artificial penetrations not included in the tabulation of wells submitted to meet the requirements at 40 CFR 146.82(a)(4)?]*

*[Associated figures may include:*

- *Map showing the maximum vertical and lateral extent of the plume and/or pressure front.*
- *Map showing the delineated AoR with the location of the proposed injection well and any monitoring wells.*

*Upload files related to the final AoR modeling and delineation effort and provide detailed modeling/well tabulation information using the AoR and Corrective Action module.]*

### **AoR and Corrective Action GSDT Submissions**

**GSDT Module:** AoR and Corrective Action

**Tab(s):** All applicable tabs

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Final computational modeling details **[40 CFR 146.82(c)(1) and 146.84(c)]**
- Tabulation of all wells within final AoR that penetrate confining zone **[40 CFR 146.82(a)(4)]**

### **Site Characterization Updates [40 CFR 146.82(c)(2)]**

*[In this section, please provide a narrative description of any relevant updates to information on the geologic structure and hydrogeologic properties of the proposed storage site, based on the results of site-specific pre-operational testing and logging. This description should be supplemented by site-specific figures and graphics based on pre-operational testing results. Please frame this discussion to match the sections in the 146.82(a) narrative submitted with the original permit application.*

*These sections are provided below for reference, along with the corresponding rule citations.]*

*[Recommended considerations include:*

- *How well do site-specific pre-operational testing and logging results compare to the data used in the original permit application? What are the differences between the original and updated site characterization?*
- *What specific testing and logging results led to updates in the site characterization?*
- *How well do pre-operational testing and logging results compare to literature and regional geologic and hydrogeologic data? What are the possible reasons for the differences?*
- *How do the data collected as part of pre-operational testing and logging inform a comprehensive understanding of site-specific conditions? Are any additional testing and monitoring methods required to gain a greater understanding?]*

*[Associated figures may include:*

- *Site-specific stratigraphic columns.*
- *Figures showing the location and extent of identified faults or major fractures.]*

### **Regional Geology, Hydrogeology, and Local Structural Geology [40 CFR 146.82(a)(3)(vi)]**

*[See recommendations above.]*

***Maps and Cross Sections of the AoR [40 CFR 146.82(a)(2), 146.82(a)(3)(i)]***

*[Note: Updated maps and cross sections showing the final AoR are required per the Class VI Rule.*

*[See recommendations above.]*

***Faults and Fractures [40 CFR 146.82(a)(3)(ii)]***

*[See recommendations above.]*

***Injection and Confining Zone Details [40 CFR 146.82(a)(3)(iii)]***

*[See recommendations above.]*

***Geomechanical and Petrophysical Information [40 CFR 146.82(a)(3)(iv)]***

*[See recommendations above.]*

***Seismic History [40 CFR 146.82(a)(3)(v)]***

*[See recommendations above.]*

***Hydrologic and Hydrogeologic Information [40 CFR 146.82(a)(3)(vi), 146.82(a)(5)]***

*[See recommendations above.]*

***Geochemistry [40 CFR 146.82(a)(6)]***

*[See recommendations above.]*

***Other Information (Including Surface Air and/or Soil Gas Data, if Applicable)***

*[See recommendations above.]*

***Site Suitability [40 CFR 146.83]***

*[See recommendations above.]*

**Compatibility of the CO<sub>2</sub> Stream [40 CFR 146.82(c)(3)]**

*[In this section, please provide a narrative description of the compatibility of the CO<sub>2</sub> stream with injection zone fluids, minerals in the injection and confining zones, and well construction materials. This should be based on the results of the pre-operational testing program.*

***Note: For additional guidance on evaluating the compatibility of the CO<sub>2</sub> stream with subsurface fluids, solids, and well materials, please see Section 3.3. of EPA's UIC Program Class VI Site Characterization Guidance.]***

*[Recommended considerations include:*

- What pre-operational testing and logging results were used to determine the compatibility of the CO<sub>2</sub> stream with formation fluids, solids, and well materials? Are there any limitations in the data or major uncertainties that remain after pre-operational testing?*
- Were any geochemical models or laboratory experiments used to determine compatibility? What models, if any, were used, and what were the results? If laboratory experiments were conducted, from what depths and formations were relevant core samples collected? Note: EPA strongly recommends using geochemical models to assess the potential impacts of CO<sub>2</sub> injection on subsurface materials.*
- If models or laboratory experiments were not used, what literature and site-specific information are used to evaluate the interactions between the CO<sub>2</sub> stream and subsurface materials? What literature-derived reaction rates were investigated? How was site-specific information incorporated into this assessment? Note: The permit applicant may provide a detailed discussion of geochemical characteristics as the evaluation of CO<sub>2</sub> stream compatibility in limited circumstances, and with the agreement of the UIC Program Director.*
- Will subsurface interactions between injectate, fluids, and/or solids lead to mineral precipitation or dissolution? Is this expected to affect permeability, porosity, or injectivity?*
- If permeability, porosity, or injectivity are expected to be affected, how was this information incorporated into the final AoR model and delineation?*
- Will the introduction of CO<sub>2</sub> lead to geochemical changes that might cause the mobilization of trace elements (e.g., lead or arsenic) from formation minerals?*
- Is there evidence that the interactions between the injectate and well cement cause deterioration of the cement and a loss of mechanical integrity?*
- Based on the results of formation testing, are any changes to the composition of the proposed CO<sub>2</sub> stream or the Testing and Monitoring Plan necessary?]*

**Pre-Operational Logging and Testing [40 CFR 146.82(c)(4),(7) and 146.87]**

*[In this section, please provide a narrative summary of the results of the formation testing program required by 40 CFR 146.82(a)(8). The summary should synthesize the results, demonstrate a comprehensive understanding of site-specific geology and hydrology, and reference Class VI rule requirements at 40 CFR 146.87 as applicable. Actual pre-operational testing and logging data should be submitted directly to the GSDT's Pre-Operational Testing module. Please provide a description of the files uploaded to the GSDT to meet the requirements of 40 CFR 146.87.*

***Note: The sections below follow the structure of the UIC Program Class VI Site Characterization Guidance. Please see that document for more detailed information on methods for analyzing and reporting the results of pre-operational testing.]***

*[Recommended considerations include:*

- *How do the pre-operational testing and logging results demonstrate that the injection and confining zones are suitable for receiving and containing injected fluids?*
- *How well do the results of pre-operational testing compare to the information submitted with the initial permit application?*
- *If the proposed well is being transitioned from a different class of injection well, what testing, monitoring, and logging data were collected previously?]*

**Well Logging [40 CFR 146.87(a)(2) and (3)]**

*[Recommended considerations include:*

- *What well logs were run? Why were these logs selected? When were the logs run?*
- *Are the data collected from well logs consistent with available site characterization data in the permit application? Do the data support other assessments of stratigraphy and formation properties?*
- *Were logs run in multiple wells to evaluate lateral continuity?*
- *If the data collected from well logs differs significantly from other sources of data, what implications are there for operational procedures, AoR delineation, and the project plan?]*

*[Associated figures may include:*

- *Wireline log results for critical intervals (injection and confining zones).*
- *Correlation plots if multiple wells were logged.]*

**Core Analyses [40 CFR 146.87(b)]**

*[Recommended considerations include:*

- *Were the cores collected from the injection well or a stratigraphic well? If they were collected from a stratigraphic well, what data supports the assumption that the cores will represent the injection well?*
- *What type(s) of cores were collected? What depths were the cores collected from? How many cores were collected from the confining and injection zones?*
- *How does the collected core catalog sufficiently support stratigraphic correlation, interpretation of depositional environments, and wireline log calibration?*
- *What laboratory analyses were conducted on the cores?*
- *Were any major anomalies identified in the cores?]*

*[Associated figures may include:*

- *Photomicrographs of thin sections in the injection and confining zones.*

- *If cores were collected from a stratigraphic well, correlation plots to the injection well.]*

### **Characterization of Injection Formation Fluid Properties [40 CFR 146.87(b) and (c)]**

*[Recommended considerations include:*

- *At what depths were formation fluids sampled? How many samples were collected?*
- *When during well construction and drilling was fluid collected?*
- *What types of sampling equipment was used? What field procedures were followed?*
- *Are the collected fluids representative of the injection formation?*
- *How will fluid analysis support a determination of the compatibility of the injectate with the formation fluids?*
- *Was there any anomalous data?]*

### **Fracture Pressure of the Injection and Confining Zones [40 CFR 146.87(d)(1)]**

*[Recommended considerations include:*

- *What method(s) was used to determine or calculate fracture pressure? Was a step-rate test conducted?*
- *What test conditions were obtained? Was a constant injection rate used? Where were pressure gauges located? If gauges were located at the surface, what correction factors were used?*
- *Are the results of fracture pressure calculations consistent with expected fracture pressures identified in the initial permit application?*
- *How does the calculated fracture pressure compare with data from core tests or other wells in the region?*
- *Are any changes to the proposed maximum injection pressure necessary given the results of the pre-operational fracture pressure determination?]*

### **Hydrogeologic Testing [40 CFR 146.87(e)(1)-(3)]**

*[Recommended considerations include:*

- *How do the results of hydrogeologic testing verify porosity, permeability, and connectivity data collected from well and core logs?*
- *Is there any evidence of a local reduction in permeability due to the well construction process (skin factor)? If so, is this expected to impact injection operations?*
- *Do the results of hydrogeologic testing suggest that a stimulation program is necessary to increase injectivity?]*

*[Associated figures may include:*

- *Semi-log plots of fall-off and injectivity/pump test results.]*

## Pressure Fall-Off Tests

*[Recommended considerations include:*

- What injection and shut-in periods were used for the fall-off test? Why were these periods selected?*
- Was flow rate constant through the injection period? Was the test conducted over a sufficient period of time?*
- Are fall-off test data used to verify computational model results?*
- What data or information demonstrate the validity of the fall-off test results?*
- Were any non-linearities identified in the fall-off test results? If so, what may be the cause? What other pre-operational testing data can help explain the non-linearities?*
- How consistent are the results of the fall-off test with other site-specific data?]*

## Injectivity and Pump Tests

*[Recommended considerations include:*

- What type of test was conducted (injectivity or pump)? Why was this test selected for this particular site?*
- What calibration procedures were used?*
- What information demonstrates that the test results are valid? What data was used to verify the results?]*

### **Pre-Operational Logging and Testing GSDT Submissions**

**GSDT Module:** Pre-Operational Testing

**Tab(s):** All tabs

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

Logging and testing results **[40 CFR 146.82(c)(7) and 146.87]**

### **Final Injection Well Construction Procedures [40 CFR 146.82(c)(5)]**

*[Please provide a brief description of the final injection well construction procedures to meet the requirement at 40 CFR 146.82(c)(5), with specific details to demonstrate an understanding of site-specific conditions based on the results of pre-operational testing and logging. Also include or attach any other information necessary to demonstrate/establish compliance with the requirements at 40 CFR 146.86.*

***Note: Schematics or other graphics showing the surface and subsurface well construction details will have been submitted to meet the requirements at 40 CFR 146.82(a)(11). If no changes to the well construction are required, please provide a brief description that justifies***

*the continued applicability of the original schematics and graphics. Otherwise, please submit updated schematics.]*

*Casing and Cementing*

*[Please provide a brief narrative description of changes, if any, made to the casing and cement prior to and during pre-operational testing, and update the corresponding table from the 40 CFR 146.82(a) narrative.]*

**Table 1. Casing details.**

Casing String	Casing Depth Range and Units	Borehole Diameter and Units	Wall Thickness and Units	External Diameter and Units	Casing Material (e.g., weight/grade/connection)	String Weight and Units
Conductor						
Surface						
Long String						
<i>Insert other casing types as applicable</i>						

*Tubing and Packer*

*[Please provide any updates related to the tubing and packer materials in the corresponding table from the 40 CFR 146.82(a) narrative.]*

**Table 2. Tubing and packer details.**

Material	Setting Depth Range and Units	Tensile Strength and Units	Burst Strength and Units	Collapse Strength and Units	Material (e.g., weight/grade/connection)
Tubing					
<i>Insert additional materials as applicable</i>					

**Corrective Action Status [40 CFR 146.82(c)(6)]**

*[Please describe the status of corrective action for wells within the final AoR, to meet the requirements of 40 CFR 146.82(c)(6). This description must indicate the number, type, and location of all plugs used to perform corrective action. Relevant documentation such as well plugging records should be uploaded directly to the GSDT.]*

*[Recommended considerations include:*

- *Was any corrective action required on wells within the AoR? Was any remedial cementing conducted?*
- *If a phased corrective action plan is used, what is the current stage of that process?]*

#### **Corrective Action GSDT Submissions**

**GSDT Module:** AoR and Corrective Action module

**Tab(s):** Corrective Action tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Corrective action documentation **[40 CFR 146.82(c)(6)]**
- NO UPDATES NECESSARY

#### **Demonstration of Mechanical Integrity [40 CFR 146.82(c)(8) and 146.89]**

*[Please provide a brief description of the results of mechanical integrity testing on the proposed injection well to meet the requirements of 40 CFR 146.82(c)(8). This description should support a demonstration of mechanical integrity to meet the requirements at 40 CFR 146.89.*

*Recommended considerations include:*

- *What approved methods were used to demonstrate mechanical integrity?*
- *What are the results of the mechanical integrity test? Is there evidence of leaks or fluid movement in the wellbore?*
- *Do the results of pre-operational mechanical integrity testing indicate that changes need to be made to the mechanical integrity evaluations as specified in the testing and monitoring plan?]*

#### **Plan Updates [40 CFR 146.82(c)(9)]**

*[Please provide a short description of any plan updates that are necessary as a result of pre-operational testing results. If no updates are required, please provide a brief narrative demonstrating that changes are not necessary. If there is additional information that could not be submitted using the forms in the GSDT it can be included here.*

***Note: Any updated plan must be resubmitted to the GSDT as described below. Be sure to include a revision number for any updated plan when submitting it to the GSDT.]***

#### ***AoR and Corrective Action***

*[Upload your updated AoR and Corrective Action Plan using the AoR and Corrective Action module.]*

### **AoR and Corrective Action GSDT Submissions**

**GSDT Module:** AoR and Corrective Action

**Tab(s):** All applicable tabs

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Updated AoR and Corrective Action Plan **[40 CFR 146.82(c)(9) and 146.84(b)]**
- NO UPDATES NECESSARY

### **Testing and Monitoring**

*[Upload your updated Testing and Monitoring Plan using the Project Plan Submissions module.]*

### **Testing and Monitoring GSDT Submissions**

**GSDT Module:** Project Plan Submissions

**Tab(s):** Testing and Monitoring tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Updated Testing and Monitoring Plan **[40 CFR 146.82(c)(9) and 146.90]**
- NO UPDATES NECESSARY

### **Injection Well Plugging**

*[Upload your updated Injection Well Plugging Plan using the Project Plan Submission module.]*

### **Injection Well Plugging GSDT Submissions**

**GSDT Module:** Project Plan Submissions

**Tab(s):** Injection Well Plugging tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Updated Injection Well Plugging Plan **[40 CFR 146.82(c)(9) and 146.90]**
- NO UPDATES NECESSARY

### **Post-Injection Site Care (PISC) and Site Closure**

*[If an alternative PISC timeframe is proposed, please provide a brief description of the pre-operational testing results that support the proposed alternative timeframe, or provide updates to the existing alternative timeframe demonstration as needed.]*

*Upload your updated PISC and Site Closure Plan to the Project Plan Submissions module. If applicable, upload your alternative PISC timeframe demonstration to the Alternative PISC Timeframe Demonstration module.]*

### **PISC and Site Closure GSDT Submissions**

**GSDT Module:** Project Plan Submissions

**Tab(s):** PISC and Site Closure tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Updated PISC and Site Closure Plan **[40 CFR 146.82(c)(9) and 146.90]**
- NO UPDATES NECESSARY

**GSDT Module:** Alternative PISC Timeframe Demonstration

**Tab(s):** All tabs (only if an alternative PISC timeframe is requested)

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Updated alternative PISC timeframe demonstration **[40 CFR 146.82(c)(9) and 146.90]**
- NO UPDATES NECESSARY

### ***Emergency and Remedial Response***

*[Upload your updated Emergency and Remedial Response Plan to the Project Plan Submissions module.]*

### **Emergency and Remedial Response GSDT Submissions**

**GSDT Module:** Project Plan Submissions

**Tab(s):** Emergency and Remedial Response tab

Please use the checkbox(es) to verify the following information was submitted to the GSDT:

- Updated Emergency and Remedial Response Plan **[40 CFR 146.82(c)(9) and 146.90]**
- NO UPDATES NECESSARY

### **Well Operation [40 CFR 146.88]**

*[Please describe updates to the well operational procedures and/or proposed carbon dioxide stream, if applicable, that are necessary based on the results of pre-operational testing. If no updates are required, it will be assumed that the operational information provided in the 40 CFR 146.82(a) narrative still applies. Changes to well operational procedures or the carbon dioxide stream should be reflected in the final AoR model and delineation described earlier in this narrative.]*

*If updates are necessary, please update tables (such as the one below), and/or figures that were submitted to fulfill the operating data requirements for the permit application, listed at 40 CFR 146.82(a)(7) and (10). Also include or attach any other information necessary to demonstrate/establish compliance with the requirements at 40 CFR 146.88.]*

**Table 3. Proposed operational procedures.**

Parameters/Conditions	Original Permit Value	Updated Value	Unit
Maximum Injection Pressure			
Surface			
Downhole			
Average Injection Pressure			
Surface			
Downhole			
Maximum Injection Rate			
Average Injection Rate			
Maximum Injection Volume and/or Mass			
Average Injection Volume and/or Mass			
Annulus Pressure			
Annulus Pressure/Tubing Differential			

**Optional Additional Project Information [40 CFR 144.4]**

*[The following is a list of Federal laws that may apply prior to the issuance of UIC permits. When any of these laws are applicable, EPA must ensure that they are followed. The optional additional information requested below will assist EPA in its analyses to satisfy these laws. If this information was provided in the initial permit application narrative and has changed based on the results of pre-operational testing (e.g., based on a change in the delineated AoR), please update as appropriate.]*

- *The Wild and Scenic Rivers Act, 16 U.S.C. 1273 et seq. Identify any national wild and scenic river that may be impacted by the activities associated with the proposed project.*
- *The National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq. Identify properties listed or eligible for listing in the National Register of Historic Places that may be affected by the activities associated with the proposed project. If previous historic and cultural resource survey(s) have been conducted, provide the results of the survey(s).*
- *The Endangered Species Act, 16 U.S.C. 1531 et seq. Identify any endangered or threatened species that may be affected by the activities associated with the proposed project. If a previous endangered or threatened species survey has been conducted, provide the results of the survey.*
- *The Coastal Zone Management Act, 16 U.S.C. 1451 et seq. Identify any coastal zones that may be affected by the activities associated with the proposed project.]*

## **Other Information**

*[Provide any other information requested by the UIC Program Director, or any information that is not specifically requested/required but may be useful to support your submission, in this section to fulfill the requirement at 40 CFR 146.82(c)(10). You can also provide information in a separate file or files using the designated field on the Updated Information tab of the Project Information Tracking module.]*

DRAFT

# PRE-OPERATIONAL TESTING PROGRAM

**INSERT PROJECT NAME**

## INSTRUCTIONS

This template provides a suggested outline and recommendations for the pre-operational testing program for a Class VI well. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the plan.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate figures, references, etc. should also be included to support the text of the plan.

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

## **Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

## **Introduction**

The testing activities at the **INSERT NAME OF WELL(S)** described in this attachment are restricted to the pre-injection phase. Testing and monitoring activities during the injection and post-injection phases are described in the Testing and Monitoring Plan, along with other non-well related pre-injection baseline activities such as geochemical monitoring.

## **Pre-Injection Testing Plan – Injection Well**

The following tests and logs will be conducted during drilling, casing installation and after casing installation in accordance with the testing required under 40 CFR 146.87(a), (b), (c), and (d). The tests and procedures are described below and in the Proposed Injection Well Construction Information section of the permit application.

*[For an existing well that is being re-permitted as a Class VI well, identify any tests that have been completed and that demonstrate that the well was built according to Class VI construction standards or demonstrate that the well was engineered and constructed to meet the requirements of 40 CFR 146.86. Also identify any remaining testing to be performed.]*

### **Deviation Checks**

Deviation measurements will be conducted approximately every **Insert interval and units** during construction of the well.

### **Tests and Logs**

*To be performed during drilling*

*[List and describe the tests to be performed, for example:*

- *Array Compensated True Resistivity Log*
- *Spontaneous Potential Logs*
- *Caliper Logs*
- *Borehole Temperature Logs*
- *Extended Range Micro Imager (XRMI) Composite Plot*
- *Extended Range Micro Imager (XRMI) Correlation Plot*
- *Compensated Spectral Natural Gamma Log*
- *Magnetic Resonance Imaging Analysis*
- *Spectral Density Dual Spaced Neutron Log*
- *Drill Stem Testing*
- *Mud Logging*
- *Fracture Studies]*

*To be performed during and after casing installation*

*[List and describe the tests to be performed, for example:*

- *Radial Cement Bond Log*
- *Annular Hole Volume Plot*
- *Variable Density Logs]*

*Demonstration of mechanical integrity*

Below is a summary of the MITs and pressure fall-off tests to be performed prior to injection:

**Table 1. Pre-Operational Testing Schedule** *Insert a description of each MIT, fall-off test, etc. and the time when the test will be performed, e.g., prior to operation.*

Class VI Rule Citation	Rule Description	Test Description	Program Period
40 CFR 146.89(a)(1)	MIT - Internal		
40 CFR 146.87(a)(4)	MIT - External		
40 CFR 146.87(a)(4)	MIT - External		
40 CFR 146.87(e)(1)	Testing prior to operating		

**INSERT OPERATOR** will notify EPA least 30 days prior to conducting the test and provide a detailed description of the testing procedure. Notice and the opportunity to witness these tests/logs shall be provided to EPA at least 48 hours in advance of a given test/log.

**Pre-Injection Testing Plan – Deep Monitoring Well **Insert Name/Number****

*[While not required, EPA recommends that Class VI well owners or operators test deep monitoring wells (i.e., that penetrate the confining zone) in a similar manner as the testing performed on the injection well. Describe any such tests to be performed.]*

**Deviation Checks**

Deviation measurements will be conducted approximately every **Insert interval and units** during construction of the well.

**Tests and Logs**

*To be performed during drilling*

*[List and describe the tests to be performed.]*

*To be performed during and after casing installation*

*[List and describe the tests to be performed.]*

*Demonstration of mechanical integrity*

Below is a summary of the MITs to be performed on the deep monitoring well(s), **Insert Name(s)/Number(s)**, after installation and prior to commencing CO<sub>2</sub> injection operations:

**Table 2. MITs** *Insert a description of each MIT and the time when the test will be performed, e.g., prior to operation.*

Test Name	Test Description	Program Period
MIT - Internal		
MIT - External		

Notice and the opportunity to witness the test/log shall be provided to EPA at least 48 hours in advance of a given test/log.

**Annulus Pressure Test Procedures for Injection Well:**

*[Provide step-by-step testing procedures.]*

**Annulus Pressure Test Procedures for Monitoring Well *Insert Name/Number*:**

*[Provide step-by-step testing procedures; repeat as necessary based on monitoring well design.]*

**Pressure Fall-Off Test Procedures:**

*[Provide step-by-step testing procedures. As appropriate, describe general operational concerns, site-specific pretest planning activities, and procedures for conducting the fall-off test.]*

DRAFT

# Class VI Injection Well: Quality Assurance and Surveillance Plan

INSERT DATE

INSERT PROJECT NAME

## INSTRUCTIONS

This template provides a suggested outline and recommendations for a Quality Assurance and Surveillance Plan for a Class VI well. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate figures, references, etc. should also be included to support the text of the plan.

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

# Table of Contents

<b>Title and Approval Sheet .....</b>	<b>vi</b>
<b>Distribution List.....</b>	<b>vii</b>
<b>A. Project Management.....</b>	<b>1</b>
<b>A.1. Project/Task Organization.....</b>	<b>1</b>
A.1.a/b. Key Individuals and Responsibilities .....	1
A.1.c. Independence from Project QA Manager and Data Gathering .....	1
A.1.d. QA Project Plan Responsibility .....	1
A.1.e. Organizational Chart for Key Project Personnel.....	1
<b>A.2. Problem Definition/Background.....</b>	<b>1</b>
A.2.a. Reasoning .....	1
A.2.b. Reasons for Initiating the Project .....	1
A.2.c. Regulatory Information, Applicable Criteria, Action Limits.....	1
<b>A.3. Project/Task Description.....</b>	<b>1</b>
A.3.a/b. Summary of Work to be Performed.....	1
A.3.c. Geographic Locations .....	4
A.3.d. Resource and Time Constraints .....	4
<b>A.4. Quality Objectives and Criteria .....</b>	<b>4</b>
A.4.a. Performance/Masurement Criteria .....	4
A.4.b. Precision .....	8
A.4.c. Bias .....	8
A.4.d. Representativeness .....	8
A.4.e. Completeness.....	8
A.4.f. Comparability.....	8
A.4.g. Method Sensitivity.....	8
<b>A.5. Special Training/Certifications.....</b>	<b>10</b>
A.5.a. Specialized Training and Certifications.....	10
A.5.b/c. Training Provider and Responsibility .....	10
<b>A.6. Documentation and Records.....</b>	<b>10</b>
A.6.a. Report Format and Package Information .....	10
A.6.b. Other Project Documents, Records, and Electronic Files.....	10
A.6.c/d. Data Storage and Duration.....	10
A.6.e. QASP Distribution Responsibility.....	11
<b>B. Data Generation and Acquisition .....</b>	<b>11</b>
<b>B.1. Sampling Process Design .....</b>	<b>11</b>
B.1.a. Design Strategy .....	11
CO <sub>2</sub> Stream Monitoring Strategy .....	11
Corrosion Monitoring Strategy .....	11
Shallow Groundwater Monitoring Strategy .....	11
Deep Groundwater Monitoring Strategy.....	11
B.1.b. Type and Number of Samples/Test Runs .....	11
B.1.c. Site/Sampling Locations .....	11

B.1.d. Sampling Site Contingency .....	11
B.1.e. Activity Schedule.....	11
B.1.f. Critical/Informational Data .....	11
B.1.g. Sources of Variability .....	11
<b>B.2. Sampling Methods .....</b>	<b>11</b>
B.2.a/b. Sampling SOPs .....	11
B.2.c. In-situ Monitoring.....	12
B.2.d. Continuous Monitoring.....	12
B.2.e. Sample Homogenization, Composition, Filtration.....	12
B.2.f. Sample Containers and Volumes.....	12
B.2.g. Sample Preservation .....	12
B.2.h. Cleaning/Decontamination of Sampling Equipment .....	12
B.2.i. Support Facilities.....	12
B.2.j. Corrective Action, Personnel, and Documentation.....	12
<b>B.3. Sample Handling and Custody .....</b>	<b>12</b>
B.3.a. Maximum Hold Time/Time Before Retrieval.....	12
B.3.b. Sample Transportation.....	12
B.3.c. Sampling Documentation.....	13
B.3.d. Sample Identification.....	13
B.3.e. Sample Chain-of-Custody.....	13
<b>B.4. Analytical Methods .....</b>	<b>13</b>
B.4.a. Analytical SOPs .....	13
B.4.b. Equipment/Instrumentation Needed .....	14
B.4.c. Method Performance Criteria.....	14
B.4.d. Analytical Failure .....	14
B.4.e. Sample Disposal.....	14
B.4.f. Laboratory Turnaround .....	14
B.4.g. Method Validation for Nonstandard Methods .....	14
<b>B.5. Quality Control .....</b>	<b>14</b>
B.5.a. QC activities .....	14
Blanks .....	14
Duplicates .....	14
B.5.b. Exceeding Control Limits.....	14
B.5.c. Calculating Applicable QC Statistics.....	14
Charge Balance .....	14
Mass Balance .....	14
Outliers .....	14
<b>B.6. Instrument/Equipment Testing, Inspection, and Maintenance .....</b>	<b>14</b>
<b>B.7. Instrument/Equipment Calibration and Frequency.....</b>	<b>15</b>
B.7.a. Calibration and Frequency of Calibration.....	15
B.7.b. Calibration Methodology.....	15
B.7.c. Calibration Resolution and Documentation .....	15
<b>B.8. Inspection/Acceptance for Supplies and Consumables.....</b>	<b>15</b>
B.8.a/b. Supplies, Consumables, and Responsibilities .....	15

<b>B.9. Nondirect Measurements .....</b>	<b>15</b>
B.9.a. Data Sources .....	15
B.9.b. Relevance to Project .....	15
B.9.c. Acceptance Criteria.....	15
B.9.d. Resources/Facilities Needed .....	15
B.9.e. Validity Limits and Operating Conditions .....	15
<b>B.10. Data Management .....</b>	<b>15</b>
B.10.a. Data Management Scheme.....	15
B.10.b. Recordkeeping and Tracking Practices.....	15
B.10.c. Data Handling Equipment/Procedures .....	15
B.10.d. Responsibility .....	15
B.10.e. Data Archival and Retrieval.....	16
B.10.f. Hardware and Software Configurations .....	16
B.10.g. Checklists and Forms.....	16
<b>C. Assessment and Oversight.....</b>	<b>16</b>
<b>C.1. Assessments and Response Actions .....</b>	<b>16</b>
C.1.a. Activities to be Conducted.....	16
C.1.b. Responsibility for Conducting Assessments.....	16
C.1.c. Assessment Reporting.....	16
C.1.d. Corrective Action.....	16
<b>C.2. Reports to Management .....</b>	<b>16</b>
C.2.a/b. QA status Reports .....	16
<b>D. Data Validation and Usability .....</b>	<b>16</b>
<b>D.1. Data Review, Verification, and Validation .....</b>	<b>16</b>
D.1.a. Criteria for Accepting, Rejecting, or Qualifying Data.....	16
<b>D.2. Verification and Validation Methods.....</b>	<b>16</b>
D.2.a. Data Verification and Validation Processes.....	16
D.2.b. Data Verification and Validation Responsibility .....	16
D.2.c. Issue Resolution Process and Responsibility .....	17
D.2.d. Checklist, Forms, and Calculations .....	17
<b>D.3. Reconciliation with User Requirements.....</b>	<b>17</b>
D.3.a. Evaluation of Data Uncertainty .....	17
D.3.b. Data Limitations Reporting .....	17
<b>References .....</b>	<b>17</b>
<b>Appendices .....</b>	<b>17</b>

**List of Tables**

**List of Figures**

DRAFT

## Title and Approval Sheet

This Quality Assurance and Surveillance Plan (QASP) is approved for use and implementation at **INSERT FACILITY**. The signatures below denote the approval of this document and intent to abide by the procedures outlined within it.

*[Add lines as needed to include all appropriate staff.]*

---

Signature  
**INSERT TYPED NAME**  
**INSERT TITLE**

---

Date

---

Signature  
**INSERT TYPED NAME**  
**INSERT TITLE**

---

Date

---

Signature  
**INSERT TYPED NAME**  
**INSERT TITLE**

---

Date

DRAFT

## **Distribution List**

The following project participants will receive the completed Quality Assurance and Surveillance Plan (QASP) and all future updates for the duration of the project.

*[Include names, titles, business addresses, and telephone numbers for all appropriate staff.]*

DRAFT

## **A. Project Management**

### **A.1. Project/Task Organization**

A.1.a/b. Key Individuals and Responsibilities

A.1.c. Independence from Project QA Manager and Data Gathering

A.1.d. QA Project Plan Responsibility

A.1.e. Organizational Chart for Key Project Personnel

### **A.2. Problem Definition/Background**

A.2.a. Reasoning

A.2.b. Reasons for Initiating the Project

A.2.c. Regulatory Information, Applicable Criteria, Action Limits

### **A.3. Project/Task Description**

A.3.a/b. Summary of Work to be Performed

*[Refer to Table **INSERT NUMBER X**, Summary of Testing and Monitoring, for a high-level list of planned activities.]*

*To avoid the need to update the QASP if minor changes to the project's Testing and Monitoring Plan are made (e.g., increasing monitoring frequency), refer to the Testing and Monitoring Plan for the monitoring schedule instead of including the schedule here.]*

**Table **Insert Number X**. Summary of Testing and Monitoring.**

<b>Activity</b>	<b>Location(s)</b>	<b>Method</b>	<b>Analytical Technique</b>	<b>Lab/Custody</b>	<b>Purpose</b>
Carbon dioxide stream analysis					
Injection rate and volume					
Injection pressure					
Annular pressure					
Downhole pressure/ temperature					
Corrosion monitoring					
Mechanical integrity					
<b>Insert Other activity</b>					
<b>Insert Other activity</b>					
<b>Insert Other activity</b>					

*[Add separate summary tables for specific activities (e.g., ground water monitoring), if necessary.]*

**Table Insert Number X. Instrumentation Summary.**

Monitoring Location	Instrument Type	Monitoring Target (Formation or Other)	Data Collection Location(s)	Explanation
CO <sub>2</sub> Facility	<span style="background-color: yellow;">Insert Instrument 1</span>			
	<span style="background-color: yellow;">Insert Instrument 2</span>			
Monitoring Well <span style="background-color: yellow;">Insert #1</span>	<span style="background-color: yellow;">Insert Instrument 1</span>			
	<span style="background-color: yellow;">Insert Instrument 2</span>			
Monitoring Well <span style="background-color: yellow;">Insert #2</span>	<span style="background-color: yellow;">Insert Instrument 1</span>			
	<span style="background-color: yellow;">Insert Instrument 2</span>			
<span style="background-color: yellow;">Insert Other location</span>	<span style="background-color: yellow;">Insert Instrument 1</span>			
	<span style="background-color: yellow;">Insert Instrument 2</span>			

*[Add separate summary tables for specific activities (e.g., geophysical surveys), if necessary.]*

A.3.c. Geographic Locations

A.3.d. Resource and Time Constraints

**A.4. Quality Objectives and Criteria**

A.4.a. Performance/Measurement Criteria

*[Refer to the tables below for specific analytical parameters and testing/monitoring outputs.]*

DRAFT

**Table **Insert Number X**. Summary of Analytical and Field Parameters for Fluid Samples in **INSERT FORMATION NAME**.**

*[The table below includes some example parameters; include additional parameters (or delete parameters) as appropriate.]*

Parameters	Analytical Methods <sup>(1)</sup>	Detection Limit/Range	Typical Precisions	QC Requirements
Cations: <b>List specific cations</b>				
Anions: <b>List specific anions</b>				
Dissolved CO <sub>2</sub>				
Total dissolved solids				
Alkalinity				
pH (field)				
Specific conductance (field)				
Temperature (field)				
<b>Insert Other parameter</b>				
<b>Insert Other parameter</b>				
<b>Insert Other parameter</b>				

Note 1: An equivalent method may be employed with the prior approval of the UIC Program Director.

**Table Insert Number X. Summary of Analytical Parameters for CO<sub>2</sub> Stream.**

*[The table below includes some example parameters; include additional parameters (or delete parameters) as appropriate.]*

<b>Parameters</b>	<b>Analytical Methods<sup>(1)</sup></b>	<b>Detection Limit/Range</b>	<b>Typical Precisions</b>	<b>QC Requirements</b>
Oxygen				
Nitrogen				
Carbon monoxide				
Oxides of nitrogen				
Total hydrocarbons				
Methane				
Acetaldehyde				
Sulfur dioxide				
Hydrogen sulfide				
Ethanol				
CO <sub>2</sub> purity				
<span style="background-color: yellow;">Insert Other parameter</span>				
<span style="background-color: yellow;">Insert Other parameter</span>				
<span style="background-color: yellow;">Insert Other parameter</span>				

Note 1: An equivalent method may be employed with the prior approval of the UIC Program Director.

**Table **Insert Number X**. Summary of Analytical Parameters for Corrosion Coupons.**

*[Add or delete parameters as needed.]*

Parameters	Analytical Methods	Detection Limit/Range	Typical Precisions	QC Requirements
Mass				
Thickness				
Insert Other parameter				
Insert Other parameter				
Insert Other parameter				

**Table **Insert Number X**. Summary of Measurement Parameters for Field Gauges.**

*[Add or delete parameters as needed.]*

Parameters	Methods	Detection Limit/Range	Typical Precisions	QC Requirements
Booster pump discharge pressure				
Injection tubing temperature				
Annulus pressure				
Injection tubing pressure				
Wellhead pressure				
Downhole temperature				
Injection mass flow rate				
Insert Other parameter				
Insert Other parameter				
Insert Other parameter				

**Table Insert Number X. Actionable Testing and Monitoring Outputs.**

*[Add or delete outputs as needed. Ensure entries are consistent with the Emergency and Remedial Response Plan, where appropriate.]*

<b>Activity or Parameter</b>	<b>Project Action Limit</b>	<b>Detection Limit</b>	<b>Anticipated Reading</b>
External mechanical integrity ( <span style="background-color: yellow;">Insert test type</span> )			
Internal mechanical integrity ( <span style="background-color: yellow;">Insert measurement type</span> )			
Surface pressure			
Downhole pressure			
Water quality ( <span style="background-color: yellow;">Insert formation</span> )			
Above-confining-zone pressure ( <span style="background-color: yellow;">Insert formation</span> )			
<span style="background-color: yellow;">Insert Other parameter</span>			
<span style="background-color: yellow;">Insert Other parameter</span>			
<span style="background-color: yellow;">Insert Other parameter</span>			

*[For Sections A.4.b through A.4.g, refer to the tables below as needed. These tables are provided as examples; add or remove tables (or rows/columns within the tables) as needed based on instruments or methods to be used.]*

A.4.b. Precision

A.4.c. Bias

A.4.d. Representativeness

A.4.e. Completeness

A.4.f. Comparability

A.4.g. Method Sensitivity

**Table **Insert Number X**. Pressure and Temperature—Downhole Gauge Specifications.**

Parameter	Value
Calibrated working pressure range	
Initial pressure accuracy	
Pressure resolution	
Pressure drift stability	
Calibrated working temperature range	
Initial temperature accuracy	
Temperature resolution	
Temperature drift stability	
Max temperature	
Instrument calibration frequency	

**Table **Insert Number X**. Representative Logging Tool Specifications.**

Parameter	<b>Insert Tool #1</b>	<b>Insert Tool #2</b>	<b>Insert Tool #3</b>	<b>Insert Tool #4</b>
Logging speed				
Vertical resolution				
Investigation				
Temperature rating				
Pressure rating				

**Table **Insert Number X**. Pressure Field Gauge.**

Parameter	Value
Calibrated working pressure range	
Initial pressure accuracy	
Pressure resolution	
Pressure drift stability	

**Table **Insert Number X**. Pressure Field Gauge—Injection Tubing Pressure.**

Parameter	Value
Calibrated working pressure range	
Initial pressure accuracy	
Pressure resolution	
Pressure drift stability	

**Table Insert Number X. Pressure Field Gauge—Annulus Pressure.**

<b>Parameter</b>	<b>Value</b>
Calibrated working pressure range	
Initial pressure accuracy	
Pressure resolution	
Pressure drift stability	

**Table Insert Number X. Temperature Field Gauge—Injection Tubing Temperature.**

<b>Parameter</b>	<b>Value</b>
Calibrated working temperature range	
Initial temperature accuracy	
Temperature resolution	
Temperature drift stability	

**Table Insert Number X. Mass Flow Rate Field Gauge—CO<sub>2</sub> Mass Flow Rate.**

<b>Parameter</b>	<b>Value</b>
Calibrated working flow rate range	
Initial mass flow rate accuracy	
Mass flow rate resolution	
Mass flow rate drift stability	

## **A.5. Special Training/Certifications**

### A.5.a. Specialized Training and Certifications

### A.5.b/c. Training Provider and Responsibility

## **A.6. Documentation and Records**

### A.6.a. Report Format and Package Information

### A.6.b. Other Project Documents, Records, and Electronic Files

### A.6.c/d. Data Storage and Duration

A.6.e. QASP Distribution Responsibility

**B. Data Generation and Acquisition**

**B.1. Sampling Process Design**

B.1.a. Design Strategy

*CO<sub>2</sub> Stream Monitoring Strategy*

*Corrosion Monitoring Strategy*

*Shallow Groundwater Monitoring Strategy*

*Deep Groundwater Monitoring Strategy*

*[Add subsections to Section B.1.a if additional types of monitoring are planned.]*

B.1.b. Type and Number of Samples/Test Runs

B.1.c. Site/Sampling Locations

B.1.d. Sampling Site Contingency

B.1.e. Activity Schedule

B.1.f. Critical/Informational Data

B.1.g. Sources of Variability

**B.2. Sampling Methods**

B.2.a/b. Sampling SOPs

*[Refer to the table below for stabilization criteria during well purging.]*

**Table Insert Number X. Stabilization Criteria of Water Quality Parameters During Shallow Well Purging.**

*[Add/delete parameters as needed.]*

<b>Field Parameter</b>	<b>Stabilization Criteria</b>
pH	
Temperature	
Specific conductance	
Dissolved oxygen	
Turbidity	

B.2.c. In-situ Monitoring

B.2.d. Continuous Monitoring

B.2.e. Sample Homogenization, Composition, Filtration

B.2.f. Sample Containers and Volumes

*[Refer to the tables below as needed for sample container, preservation, and holding time information.]*

B.2.g. Sample Preservation

*[Refer to the tables below as needed for sample container, preservation, and holding time information.]*

B.2.h. Cleaning/Decontamination of Sampling Equipment

B.2.i. Support Facilities

B.2.j. Corrective Action, Personnel, and Documentation

**B.3. Sample Handling and Custody**

B.3.a. Maximum Hold Time/Time Before Retrieval

*[Refer to the tables below as needed for sample container, preservation, and holding time information.]*

B.3.b. Sample Transportation

B.3.c. Sampling Documentation

B.3.d. Sample Identification

**Table Insert Number X. Summary of Sample Containers, Preservation Treatments, and Holding Times for CO<sub>2</sub> Gas Stream Analysis.**

*[Add or delete rows as needed.]*

Sample	Volume/Container Material	Preservation Technique	Sample Holding time (max)
CO <sub>2</sub> gas stream			

**Table Insert Number X. Summary of Anticipated Sample Containers, Preservation Treatments, and Holding Times for Ground Water Samples.**

*[The table below includes some example parameters; include additional parameters (or delete parameters) as appropriate.]*

Target Parameters	Volume/Container Material	Preservation Technique	Sample Holding Time
Cations: <u>List specific cations</u>			
Anions: <u>List specific anions</u>			
Dissolved CO <sub>2</sub>			
Isotopes: <u>List specific isotopes</u>			
Alkalinity			
Field Confirmation: <u>List specific parameters</u>			
<u>Insert Other parameter</u>			
<u>Insert Other parameter</u>			
<u>Insert Other parameter</u>			

B.3.e. Sample Chain-of-Custody

**B.4. Analytical Methods**

B.4.a. Analytical SOPs

B.4.b. Equipment/Instrumentation Needed

B.4.c. Method Performance Criteria

B.4.d. Analytical Failure

B.4.e. Sample Disposal

B.4.f. Laboratory Turnaround

B.4.g. Method Validation for Nonstandard Methods

## **B.5. Quality Control**

B.5.a. QC activities

*Blanks*

*Duplicates*

B.5.b. Exceeding Control Limits

B.5.c. Calculating Applicable QC Statistics

*Charge Balance*

*Mass Balance*

*Outliers*

## **B.6. Instrument/Equipment Testing, Inspection, and Maintenance**

## **B.7. Instrument/Equipment Calibration and Frequency**

B.7.a. Calibration and Frequency of Calibration

B.7.b. Calibration Methodology

B.7.c. Calibration Resolution and Documentation

## **B.8. Inspection/Acceptance for Supplies and Consumables**

B.8.a/b. Supplies, Consumables, and Responsibilities

## **B.9. Nondirect Measurements**

B.9.a. Data Sources

B.9.b. Relevance to Project

B.9.c. Acceptance Criteria

B.9.d. Resources/Facilities Needed

B.9.e. Validity Limits and Operating Conditions

## **B.10. Data Management**

B.10.a. Data Management Scheme

B.10.b. Recordkeeping and Tracking Practices

B.10.c. Data Handling Equipment/Procedures

B.10.d. Responsibility

B.10.e. Data Archival and Retrieval

B.10.f. Hardware and Software Configurations

B.10.g. Checklists and Forms

## **C. Assessment and Oversight**

### **C.1. Assessments and Response Actions**

C.1.a. Activities to be Conducted

C.1.b. Responsibility for Conducting Assessments

C.1.c. Assessment Reporting

C.1.d. Corrective Action

### **C.2. Reports to Management**

C.2.a/b. QA status Reports

## **D. Data Validation and Usability**

### **D.1. Data Review, Verification, and Validation**

D.1.a. Criteria for Accepting, Rejecting, or Qualifying Data

### **D.2. Verification and Validation Methods**

D.2.a. Data Verification and Validation Processes

D.2.b. Data Verification and Validation Responsibility

D.2.c. Issue Resolution Process and Responsibility

D.2.d. Checklist, Forms, and Calculations

**D.3. Reconciliation with User Requirements**

D.3.a. Evaluation of Data Uncertainty

D.3.b. Data Limitations Reporting

**References**

**Appendices**

*[Include, as needed, additional information that supports the QASP. Examples may include detailed procedures, sampling, or calibration information; materials from equipment manufacturers; information provided by subcontractors who will perform certain testing and monitoring activities; or sample worksheets to document testing and monitoring results. To support consistency with other permit documents (e.g., the Testing and Monitoring Plan, the PISC and Site Closure Plan, and the Emergency and Remedial Response Plan), consider what information is best included in those documents vs. in this QASP.]*

**STIMULATION PROGRAM**  
**40 CFR 146.82(a)(9)**

**INSERT PROJECT NAME**

**INSTRUCTIONS**

This template provides a suggested outline and recommendations for the stimulation program.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate figures, references, etc. should also be included to support the text of the plan.

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>.

**Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

*[Regardless of whether stimulation is anticipated, include the paragraph below.]*

Stimulation to enhance the injectivity potential of the injection zone may be necessary. Stimulation may involve but is not limited to flowing fluids into or out of the well, increasing or connecting pore spaces in the injection formation, or other activities that are intended to allow the injectate to move more readily into the injection formation. Advance notice of all proposed stimulation activities must be provided to the Director, as detailed below, prior to conducting the stimulation. The permittee must describe any fluids to be utilized for stimulation activities and the permittee must demonstrate that the stimulation will not interfere with containment. The permittee must submit proposed procedures for all stimulation activities to the Director in writing at least 30 days in advance, per 40 CFR 146.91(d)(2). Within the 30-day notice period, EPA may: deny the stimulation; approve the stimulation as proposed; or approve the stimulation

with conditions. The permittee must carry out the stimulation procedures, including any conditions, as approved or set forth by EPA.

*[If stimulation is anticipated and the specific procedures are known, EPA recommends providing the information below. If the well is re-permitted, and any stimulation was performed, EPA recommends describing the procedures and results (e.g., changes in injectivity).]*

### **Introduction/Purpose**

*[Describe what is expected to be achieved via the proposed stimulation, e.g., remove drilling mud, dissolve carbonate minerals, etc.]*

### **Stimulation Fluids**

*[Describe the stimulation fluids to be used, including their anticipated volumes/ranges of volumes, anticipated concentrations/ranges of concentrations, and purpose.]*

### **Additives**

*[Describe any additives to be used (e.g., corrosion inhibitors, clay inhibitors, biocides, complexing agents, or surfactants), including their anticipated volumes/ranges of volumes, anticipated concentrations/ranges of concentrations, and purpose.]*

### **Diverters**

*[Describe any diverting agents to be used (e.g., calcium carbonate, naphthalene flakes, or mixtures of waxes, guar, and cellulose), including their anticipated volumes/ranges of volumes, anticipated concentrations/ranges of concentrations, and purpose.]*

### **Stimulation Procedures**

*[Describe the step-by-step procedures that will be employed during stimulation.]*

## SUMMARY OF REQUIREMENTS

### CLASS VI OPERATING AND REPORTING CONDITIONS

**INSERT PROJECT NAME**

#### INSTRUCTIONS

This template provides a suggested outline and recommendations for the summary of operating and reporting requirements. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns).

For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>.

#### **Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

**Table 1. Injection Well Operating Conditions**

PARAMETER/CONDITION	LIMITATION or PERMITTED VALUE
Maximum Injection Pressure - Surface	
Maximum Injection Pressure - Bottomhole	
Annulus Pressure	
Annulus Pressure/Tubing Differential	
Maximum CO <sub>2</sub> Injection Rate	

*[Continuous monitoring of injection pressure, rate, and volume and the pressure on the annulus between the tubing and the long-string casing is required; include additional monitoring parameters (e.g., of temperature) as appropriate.]*

The maximum injection pressure, which serves to prevent confining-formation fracturing, was determined: using the fracture gradient obtained from **INSERT INFORMATION SOURCE** multiplied by 0.9, per 40 CFR 146.88(a). *[Adjust this paragraph as needed, e.g., if the maximum injection pressure is lower than 90 percent of the fracture pressure of the confining zone.]*

**Routine Shutdown Procedure**

For injection shutdowns occurring under routine conditions (e.g., for well workovers), the permittee will reduce CO<sub>2</sub> injection at a rate of **INSERT X tons per day** over a **INSERT X day** period to ensure protection of health, safety, and the environment. (Procedures that address immediately shutting in the well are in the Emergency and Remedial Response Plan of this permit.) *[Modify or add to this paragraph as needed to describe any project-specific considerations.]*

**Table 2. Class VI Injection Well Reporting Requirements**

ACTIVITY	REPORTING REQUIREMENTS
CO <sub>2</sub> stream characterization	Semi-annually
Injection pressure, injection rate, injection volume, pressure on the annulus, and annulus fluid level	Semi-annually
Corrosion monitoring	Semi-annually
External MITs	Within 30 days of completion of test
Pressure fall-off testing	In the next semi-annual report

Note: All testing and monitoring frequencies and methodologies are included in the Testing and Monitoring Plan of this permit.

**Table 3. Class VI Project Reporting Requirements**

*[Include rows for additional activities (e.g., surface air and/or soil gas monitoring) as appropriate.]*

ACTIVITY	REPORTING REQUIREMENTS
Groundwater quality monitoring	Semi-annually
Plume and pressure front tracking	In the next semi-annual report
Monitoring well MITs	Within 30 days of completion of test
Financial responsibility updates pursuant to H.2 and H.3(a) of this permit	Within 60 days of update

Note: All testing and monitoring frequencies and methodologies are included in the Testing and Monitoring Plan of this permit.

*[If necessary, add sections for any other project-specific operating conditions, e.g., startup procedures.]*

## TESTING AND MONITORING PLAN 40 CFR 146.90

### **INSERT PROJECT NAME**

#### INSTRUCTIONS

This template provides a suggested outline and recommendations for the Testing and Monitoring Plan. Permit applicants are not required to use this template. This document does not substitute for promulgated provisions or regulations, nor is it a regulation itself, and it does not impose legally-binding requirements on the U.S. Environmental Protection Agency (EPA), states, or the regulated community.

Note that references to EPA's Class VI Rule in the code of federal regulations (CFR) are provided in this template. States with Class VI primacy have requirements that are at least as stringent as EPA's. If your Class VI well is in a primacy state, consult your permitting authority about any additional requirements for what must be included in the plan.

In this template, instructions or suggestions appear in *blue text*. These are provided to assist with site- and project-specific plan development. These are recommendations and are not required elements of the federal Class VI Rule.

Please delete the *blue text* and replace the **yellow highlighted text** before submitting your document. Similarly, please adjust the example text and tables throughout as necessary (e.g., by adding or removing rows or columns). Appropriate maps, figures, references, etc. should also be included to support the text of the plan.

Remember that, pursuant to 40 CFR 146.94(a) of the federal Class VI Rule, the requirement to maintain and implement an approved Testing and Monitoring Plan is directly enforceable regardless of whether the requirement is a condition of the permit. For more information, see EPA's Class VI guidance documents at <https://www.epa.gov/uic/class-vi-guidance-documents>. It is the responsibility of the owner or operator to maintain records of previous revisions to this plan.

To avoid duplicative reporting, you are encouraged to provide relevant cross-references to other submissions made with the GSDT.

#### **Facility Information**

Facility name: **INSERT FACILITY NAME**  
**INSERT WELL NUMBER**

Facility contact: **INSERT CONTACT NAME/CONTACT TITLE**  
**INSERT ADDRESS**  
**INSERT PHONE NUMBER/EMAIL ADDRESS**

Well location: **INSERT CITY, COUNTY, STATE**  
**INSERT LAT/LONG COORDINATES**

Plan revision number: **INSERT**

Plan revision date: **INSERT**

This Testing and Monitoring Plan describes how **INSERT PERMIT APPLICANT NAME** will monitor the **INSERT FACILITY NAME** site pursuant to 40 CFR 146.90. In addition to demonstrating that the well is operating as planned, the carbon dioxide plume and pressure front are moving as predicted, and that there is no endangerment to USDWs, the monitoring data will be used to validate and adjust the geological models used to predict the distribution of the CO<sub>2</sub> within the storage zone to support AoR reevaluations and a non-endangerment demonstration.

Results of the testing and monitoring activities described below may trigger action according to the Emergency and Remedial Response Plan.

### **Overall Strategy and Approach for Testing and Monitoring**

*[EPA encourages permit applicants/owners or operators to include a short “big-picture” summary of their testing and monitoring approach to demonstrate how they will meet all the applicable requirements of the Class VI Rule. You may use this section to provide a brief narrative description of how the proposed testing and monitoring activities support an overall strategy to fulfil the requirements of the Class VI Rule, demonstrate USDW non-endangerment, and collect sufficient data on site-specific system behavior to support decision-making at project milestones.]*

*[Recommended considerations include:*

- What is the spatial distribution (depth and areal extent) of the proposed monitoring network, and what is the general schedule for data collection? What site-specific considerations were used to determine data collection locations and frequency?*
- How does the overall testing and monitoring strategy fit the regional and local site characterization and risk profile? For example, if the region has a history of induced or natural seismic events, how will the Testing and Monitoring Plan account for this?*
- If specific areas or issues of potential concern were identified during site characterization, AoR delineation modeling, or pre-operational logging/testing, how will the testing and monitoring strategy address these concerns?*
- Generally, how will collected data be compared to baseline data or otherwise applied to demonstrate Class VI Rule compliance/USDW non-endangerment, verify predictions from computational modeling, and provide support for project decision making?]*

### ***Quality assurance procedures***

*[Please reference or attach a quality assurance and surveillance plan (QASP) for all testing and monitoring activities, which is required pursuant to 146.90(k) in the Testing and Monitoring Plan. A template for the QASP is available.]*

### ***Reporting procedures***

**INSERT PERMIT APPLICANT NAME** will report the results of all testing and monitoring activities to EPA in compliance with the requirements under 40 CFR 146.91.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### **Carbon Dioxide Stream Analysis [40 CFR 146.90(a)]**

**INSERT PERMIT APPLICANT NAME** will analyze the CO<sub>2</sub> stream during the operation period to yield data representative of its chemical and physical characteristics and to meet the requirements of 40 CFR 146.90(a).

#### ***Sampling location and frequency***

*[Recommended considerations include:*

- *What is the specific schedule for CO<sub>2</sub> stream sampling? For example, “Sampling will take place quarterly, by the following dates each year: 3 months after the date of authorization of injection, 6 months after the date of authorization of injection, 9 months after the date of authorization of injection, and 12 months after the date of authorization of injection.”*
- *The Class VI Rule requires that the CO<sub>2</sub> stream be analyzed at a sufficient frequency to yield data representative of chemical and physical CO<sub>2</sub> stream characteristics. How was this “sufficient frequency” determined in the context of this project?*
- *How will it be determined if data deviate from baseline, predicted, or average values?*
- *If tracers are used, where/how and at what concentration will they be added?*
- *Will certain changes in CO<sub>2</sub> stream chemical and physical characteristics trigger a change in sampling schedule? For example:*
  - *If the well is shut-in for X amount of time, the CO<sub>2</sub> stream will be analyzed X (days, weeks) after operations resume.*
  - *An alternative CO<sub>2</sub> stream sampling schedule (define) based on injected amount, not time, will be triggered if the Summary of Requirements to this permit is modified or if injection activities deviate significantly (define) from expected rates (e.g., if injection volume is less than X over X period).*
  - *A significant (define) change in chemical or physical characteristics of the CO<sub>2</sub> stream will trigger additional sampling at a frequency of X to collect sufficient data to characterize the CO<sub>2</sub> stream.]*

#### ***Analytical parameters***

**INSERT PERMIT APPLICANT NAME** will analyze the CO<sub>2</sub> for the constituents identified in Table 1 using the methods listed.

**Table 1. Summary of analytical parameters for CO<sub>2</sub> stream.**

<b>Parameter</b>	<b>Analytical Method(s)</b>
<b>Insert Parameter 1</b>	
<b>Insert Parameter 2</b>	
<b>Insert Parameter 3</b>	

Plan revision number: **INSERT**  
 Plan revision date: **INSERT**

Parameter	Analytical Method(s)
<i>Add rows as needed</i>	

**Sampling methods**

*[Recommended considerations include:*

- *Where will sample collection take place?*
- *What materials/equipment will be used?*
- *What sample collection procedures will be implemented to ensure a representative sample? (Refer to the QASP as appropriate.)]*

**Laboratory to be used/chain of custody and analysis procedures**

*[Recommended considerations include:*

- *Where will this analysis be conducted? What chain of custody procedures will be implemented? (Refer to the QASP as appropriate.)*
- *What are the detection limits for the analytical methods that will be used? (Refer to the QASP as appropriate.)]*

**Continuous Recording of Operational Parameters [40 CFR 146.88(e)(1), 146.89(b) and 146.90(b)]**

**INSERT PERMIT APPLICANT NAME** will install and use continuous recording devices to monitor injection pressure, rate, and volume; the pressure on the annulus between the tubing and the long string casing; the annulus fluid volume added; and the temperature of the CO<sub>2</sub> stream, as required at 40 CFR 146.88(e)(1), 146.89(b), and 146.90(b).

**Monitoring location and frequency**

**INSERT PERMIT APPLICANT NAME** will perform the activities identified in Table 2 to monitor operational parameters and verify internal mechanical integrity of the injection well. All monitoring will take place at the locations and frequencies shown in the table.

*[Note: As applicable, please provide sampling/recording frequencies for both active operation and shut-in periods.]*

**Table 2. Sampling devices, locations, and frequencies for continuous monitoring.**

Parameter	Device(s)	Location	Min. Sampling Frequency	Min. Recording Frequency
<b>Insert Injection pressure</b>				
<b>Insert Injection rate</b>				

Plan revision number: INSERT

Plan revision date: INSERT

Parameter	Device(s)	Location	Min. Sampling Frequency	Min. Recording Frequency
Insert Injection volume				
Insert Annular pressure				
Insert Annulus fluid volume				
Insert CO <sub>2</sub> stream temperature				
Add rows as needed				

Notes:

- Sampling frequency refers to how often the monitoring device obtains data from the well for a particular parameter. For example, a recording device might sample a pressure transducer monitoring injection pressure once every two seconds and save this value in memory.
- Recording frequency refers to how often the sampled information gets recorded to digital format (such as a computer hard drive). For example, the data from the injection pressure transducer might be recorded to a hard drive once every minute.

### **Monitoring details**

*[EPA recommends that, for each the parameters required by the Class VI Rule (injection pressure, injection rate, injection volume, annular pressure, annulus fluid volume, and CO<sub>2</sub> stream temperature) and any optional operational parameters that will be monitored (e.g., bottomhole pressure/temperature), the plan specify the following:*

- *Where specifically will this monitoring take place? What equipment/instrumentation will be used and how often will data be sampled/recorded? (Refer to Table 2 as appropriate.)*
- *What are the instrument calibration standards, precision, and tolerances? How will any necessary supporting information (e.g., fluid density) be measured or calculated? (Refer to the QASP as appropriate.)*
- *If applicable, what formulas or conversion factors will be used? (Provide citations as appropriate.)*
- *How will it be determined if data deviate from baseline, predicted, or average values?*
- *How will the data be used to demonstrate internal mechanical integrity, pursuant to 40 CFR 146.89(b)?*
- *How might changes in injection rate or annular pressure trigger additional sample collection or change the sampling schedule for other aspects of the Testing and Monitoring Plan (above confining zone monitoring, mechanical integrity testing, etc.)?]*

### **Corrosion Monitoring**

To meet the requirements of 40 CFR 146.90(c), INSERT PERMIT APPLICANT NAME will monitor well materials during the operation period for loss of mass, thickness, cracking, pitting, and other signs of corrosion to ensure that the well components meet the minimum standards for material strength and performance.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

**INSERT PERMIT APPLICANT NAME** will monitor corrosion using **INSERT METHOD** and collect samples according to the description below.

### **Monitoring location and frequency**

*[Recommended considerations include:*

- *What is the specific schedule for corrosion monitoring? For example, “This monitoring will occur quarterly, by the following dates each year: 3 months after the date of authorization of injection, 6 months after the date of authorization of injection, 9 months after the date of authorization of injection, and 12 months after the date of authorization of injection.”*
- *Will additional corrosion monitoring be added if there are deviations from expected operations? For example, the quarterly monitoring schedule could be supplemented with samples collected based on injected volume (rather than time) to ensure sufficient characterization of well materials.]*

### **Sample description**

*[Recommended considerations include:*

- *What materials will be monitored for corrosion? (Refer to Table 3; modify table as necessary for methods other than corrosion coupons.)*
- *What baseline assessment will be conducted prior to exposing the materials to corrosive conditions?]*

**Table 3. List of equipment with material of construction.** *[Specify the equipment to be tested (e.g., corrosion coupons or loops)]*

<b>Equipment Coupon</b>	<b>Material of Construction</b>
<b>Insert Well component 1</b>	
<b>Insert Well component 2</b>	
<b>Insert Well component 3</b>	
<b>Add rows as needed</b>	

### **Monitoring details**

*[Recommended considerations include:*

- *How will the system be designed to ensure samples are exposed to representative conditions?*
- *What techniques will be used to assess and quantify the corrosion? (Cite references as necessary.)*
- *How will it be determined if data deviate from baseline, predicted, or average values?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *Will any additional wellbore tests be conducted (e.g., periodic wireline logs) to supplement the corrosion tests described above?*
- *Will any verification tests will be done to demonstrate that the methods described above are accurately representing downhole conditions?]*

### **Above Confining Zone Monitoring**

**INSERT PERMIT APPLICANT NAME** will monitor groundwater quality and geochemical changes above the confining zone during the operation period to meet the requirements of 40 CFR 146.90(d).

To meet the requirements at 40 CFR 146.95(f)(3)(i), **INSERT PERMIT APPLICANT NAME** will also monitor groundwater quality, geochemical changes, and pressure in the first USDWs immediately above and below the injection zone(s). *[Delete this paragraph if the project will not be operating under an injection depth waiver.]*

### ***Monitoring location and frequency***

Table 4 shows the planned monitoring methods, locations, and frequencies for groundwater quality and geochemical monitoring above the confining zone.

*[Recommended considerations include:*

- *What is the specific schedule for sampling? Define terms such as “quarterly,” for example:*
  - *Quarterly sampling will take place by the following dates each year: 3 months after the date of authorization of injection, 6 months after the date of authorization of injection, 9 months after the date of authorization of injection, and 12 months after the date of authorization of injection.*
  - *Semi-annual sampling will take place by the following dates each year: 6 months after the date of authorization of injection and 12 months after the date of authorization of injection.*
  - *Annual sampling will occur up to 45 days before the anniversary date of authorization of injection each year.*
  - *Logging will take place up to 45 days before the anniversary date of authorization of injection each year.*
- *What is the depth or elevation below mean sea level of each sampling interval?*
- *How will it be determined if data deviate from baseline, predicted, or average values?*
- *How is the network of monitoring wells sufficient to monitor above the confining zone throughout the AoR, given specific geologic characteristics of the site? A map showing monitoring well locations relative to the AoR delineation is encouraged.*
- *Are there any geochemical changes that might trigger a change in the sampling schedule? If so, how will the schedule change to sufficiently identify leaks/characterize groundwater quality above the confining zone?*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *How will indirect monitoring activities (if used) complement direct fluid sampling to create a comprehensive leak detection/groundwater monitoring strategy?*
- *Is any phased monitoring planned based on predicted plume migration within the AoR?]*

**Table 4. Monitoring of groundwater quality and geochemical changes above the confining zone.**

*[If indirect monitoring techniques such as logging will be used to complement direct fluid sampling, they can also be included in this table.]*

Target Formation	Monitoring Activity	Monitoring Location(s)	Spatial Coverage	Frequency
<b>Insert Formation 1</b>				
<b>Insert Formation 2</b>				
<b>Insert Formation 3</b>				
<i>Add rows as needed</i>				

### *Analytical parameters*

Table 5 identifies the parameters to be monitored and the analytical methods **INSERT PERMIT APPLICANT** will use.

*[Recommended considerations include:*

- *How will the suite of parameters presented in Table 5 be sufficient to meet site-specific monitoring objectives? What criteria will be used to determine if additional parameters are needed during the life of the project?*
- *If tracers are used, what detected concentrations will trigger additional action?]*

**Table 5. Summary of analytical and field parameters for groundwater samples.**

Parameters	Analytical Methods
<b>INSERT FORMATION NAME</b>	
<b>Insert Parameter 1</b>	
<b>Insert Parameter 2</b>	
<b>Insert Parameter 3</b>	
<i>Add rows as needed</i>	
<b>INSERT FORMATION NAME</b>	
<b>Insert Parameter 1</b>	
<b>Insert Parameter 2</b>	
<b>Insert Parameter 3</b>	
<i>Add rows as needed</i>	

Plan revision number: **INSERT**

Plan revision date: **INSERT**

### **Sampling methods**

*[Recommended considerations include:*

- *What materials will be used?*
- *What sample collection procedures will be implemented to ensure a representative sample? (Refer to the QASP as necessary.)]*

### **Laboratory to be used/chain of custody procedures**

*[Recommended considerations include:*

- *Where will this analysis be conducted? What chain of custody procedures will be implemented? (Refer to the QASP as necessary.)*
- *What are the detection limits for the analytical methods that will be used? (Refer to the QASP as necessary.)]*

### **External Mechanical Integrity Testing**

**INSERT PERMIT APPLICANT NAME** will conduct at least one of the tests presented in Table 6 periodically during the injection phase to verify external MI as required at 146.89(c) and 146.90.

### **Testing location and frequency**

*[Recommended considerations include:*

- *When specifically will MITs be performed? For example, “MITs will be performed annually, up to 45 days before the anniversary date of authorization of injection each year.”]*

**Table 6. MITs.**

<b>Test Description</b>	<b>Location</b>
<b>Insert Test 1</b>	
<b>Insert Test 2</b>	
<b>Insert Test 3</b>	
<b>Add rows as needed</b>	

### **Testing details**

*[Recommended considerations include:*

- *What are the specific procedures that will be followed for each type of test? (Provide a list of steps or similar description.)*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

- *What gauges or other equipment will be used? What is the range, precision, etc. of the equipment?*
- *What will constitute a “pass” or “fail” for each test?*
- *Will any other data be used to demonstrate that there are no significant leaks? For example, continuous monitoring of annulus and injection pressure can be used to identify the presence of leaks.*
- *Will any MIT(s) be conducted on monitoring wells? It may be important to demonstrate mechanical integrity for any wells that penetrate the confining zone. If MITs will be conducted on monitoring wells, this information can also be included in Table.]*

### **Pressure Fall-Off Testing**

**INSERT PERMIT APPLICANT NAME** will perform pressure fall-off tests during the injection phase as described below to meet the requirements of 40 CFR 146.90(f).

#### ***Testing location and frequency***

*[Recommended considerations include:*

- *When will pressure fall-off tests be performed? For example, “During injection, approximately half way through the injection phase (i.e., year 2.5) and at the end of the injection period.”]*

#### ***Testing details***

*[Recommended considerations include:*

- *What are the specific procedures that will be followed for the test? (For example, provide a list of steps or similar description.)*
- *What gauges or other equipment will be used? What is the range, precision, etc. of the equipment?]*

### **Carbon Dioxide Plume and Pressure Front Tracking**

**INSERT PERMIT APPLICANT NAME** will employ direct and indirect methods to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure during the operation period to meet the requirements of 40 CFR 146.90(g).

#### ***Plume monitoring location and frequency***

Table 7 presents the methods that **INSERT PERMIT APPLICANT NAME** will use to monitor the position of the CO<sub>2</sub> plume, including the activities, locations, and frequencies **INSERT PERMIT APPLICANT NAME** will employ. The parameters to be analyzed as part of fluid sampling in the injection zone and associated analytical methods are presented in Table 8.

Plan revision number: **INSERT**

Plan revision date: **INSERT**

Quality assurance procedures for these methods are presented in **INSERT SECTION X** of the QASP.

*[Recommended considerations include:*

- *What is the specific schedule for each monitoring activity? For example, “Logging will take place up to 45 days before the anniversary date of authorization of injection each year.”*
- *For continuous monitoring methods, how often will data be sampled and recorded?*
- *Will monitoring locations/frequencies be fixed or adaptive (e.g., according to the evolution and growth of the plume)? What specific, quantitative triggers or timeframes will be used for phased or adaptive monitoring? Consider including one or more maps showing monitoring locations relative to the AoR delineation and the anticipated position of the plume at certain time intervals (e.g., predicted arrival times at monitoring locations).*
- *What is the depth or elevation below mean sea level of each monitoring interval?]*

### **Plume monitoring details**

*[Recommended considerations include:*

- *What type(s) of data or output will result from each monitoring method?*
- *What gauges or other equipment will be used? What is the range, precision, etc. of the equipment?*
- *For methods involving fluid sample collection (refer to the QASP as necessary):*
  - *What materials will be used?*
  - *What sample collection procedures will be implemented to ensure a representative sample?*
  - *Where will sample analysis be conducted? What chain of custody procedures will be implemented?*
  - *What are the detection limits for the analytical methods that will be used?*
- *For geophysical methods, what data processing procedures will be implemented?*
- *How will it be determined if data deviate from baseline, predicted, or average values? For point locations, how will plume arrival determined? (e.g., using criteria related to CO<sub>2</sub> saturation values, tracer concentrations, etc.)*
- *How will the proposed combination of direct and indirect monitoring satisfy the requirements at 40 CFR 146.90(g)? For example, how will data from the various proposed monitoring methods complement each other? How will the various monitoring results be synthesized to monitor the extent of the plume and verify the AoR delineation?]*

Plan revision number: INSERT

Plan revision date: INSERT

**Table 7. Plume monitoring activities.**

Target Formation	Monitoring Activity	Monitoring Location(s)	Spatial Coverage	Frequency
<b>DIRECT PLUME MONITORING</b>				
Insert Formation 1				
Insert Formation 2				
Insert Formation 3				
<i>Add rows as needed</i>				
<b>INDIRECT PLUME MONITORING</b>				
Insert Formation 1				
Insert Formation 2				
Insert Formation 3				
<i>Add rows as needed</i>				

**Table 8. Summary of analytical and field parameters for fluid sampling in the injection zone.**

Parameters	Analytical Methods
<b>FORMATION NAME</b>	
Insert Parameter 1	
Insert Parameter 2	
Insert Parameter 3	
<i>Add rows as needed</i>	

***Pressure-front monitoring location and frequency***

Table 9 presents the methods that INSERT PERMIT APPLICANT NAME will use to monitor the position of the pressure front, including the activities, locations, and frequencies INSERT PERMIT APPLICANT NAME will employ.

Quality assurance procedures for these methods are presented in SECTION X of the QASP.

*[Recommended considerations include:*

- What is the specific schedule for each monitoring activity? For example, “Logging will take place up to 45 days before the anniversary date of authorization of injection each year.”*
- For continuous monitoring methods, how often will data be sampled and recorded?*
- Will monitoring locations/frequencies be fixed or adaptive (e.g., according to the evolution and growth of the pressure front)? What specific, quantitative triggers or timeframes will be used for phased or adaptive monitoring? Consider including one or more maps showing monitoring locations relative to the AoR delineation and the*

Plan revision number: **INSERT**

Plan revision date: **INSERT**

*anticipated position of the pressure front at certain time intervals (e.g., predicted arrival times at monitoring locations).*

- *What is the depth or elevation below mean sea level of each monitoring interval?]*

### **Pressure-front monitoring details**

*[Recommended considerations include:*

- *What type(s) of data or output will result from each monitoring method?*
- *What gauges or other equipment will be used? What is the range, precision, etc. of the equipment?*
- *For geophysical methods, what data processing procedures will be implemented?*
- *How will it be determined if data deviate from baseline, predicted, or average values?*
- *How will the proposed combination of direct and indirect monitoring satisfy the requirements at 40 CFR 146.90(g)? For example, how will data from the various proposed monitoring methods complement each other? How will the various monitoring results be synthesized to monitor the extent of the plume and verify the AoR delineation?]*

**Table 9. Pressure-front monitoring activities.**

<b>Target Formation</b>	<b>Monitoring Activity</b>	<b>Monitoring Location(s)</b>	<b>Spatial Coverage</b>	<b>Frequency</b>
<b>DIRECT PRESSURE-FRONT MONITORING</b>				
<b>Insert Formation 1</b>				
<b>Insert Formation 2</b>				
<b>Insert Formation 3</b>				
<b>Add rows as needed</b>				
<b>INDIRECT PRESSURE-FRONT MONITORING</b>				
<b>Insert Formation 1</b>				
<b>Insert Formation 2</b>				
<b>Insert Formation 3</b>				
<b>Add rows as needed</b>				

### **Soil Gas Monitoring/Other Testing and Monitoring**

*[Additional testing and monitoring may need to be added as required by the UIC Program Director. If so, describe sampling locations (e.g., in areas, such as near faults, fractures, or abandoned well bores with potential for carbon dioxide migration) and monitoring methods.]*

40 CFR 145.22(a)(3) – Attorney General’s  
Statement

DRAFT



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

**Department of Law**  
OFFICE OF THE ATTORNEY GENERAL

1031 West Fourth Avenue, Ste. 200  
Anchorage, AK 99501  
Main: (907) 269-5100  
Fax: (907) 276-3697

DATE

Ms. Emma Pokon  
Regional Administrator  
U.S. Environmental Protection Agency, Region 10  
1200 Sixth Avenue, Suite 155  
Seattle, WA 98101

*Re: Attorney General's Statement to Accompany Alaska's Underground Injection Control Program Class VI Primacy Application*

Dear Ms. Pokon:

I hereby certify, pursuant to my authority as Attorney General of the State of Alaska 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 of Alaska provide adequate authority to apply for, assume, and carry out the program described in the State Underground Injection Control (UIC) Class VI Program Description submitted by the Alaska Oil and Gas Conservation Commission (AOGCC) to the U.S. Environmental Protection Agency. 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.

The AOGCC has adequate authority to carry out the program set forth in the State UIC Class VI Program Description pursuant to the following statutes and regulations:

- Alaska Statutes (AS) 41.06.105 – 41.06.210 “Carbon Storage and Injection”;
- Alaska Statutes (AS) 31.05.005 – 31.05.170 “Alaska Oil and Gas Conservation Act”;
- Alaska Administrative Code (AAC) 20 AAC 25.442; 20 AAC 25.444, and 20 AAC 25.990 (79) – (83); and
- Alaska Administrative Code (AAC) 20 AAC 25.1000 – 1900, Article 9, “Carbon Storage”.

Furthermore, I certify that the environmental audit privilege and immunity laws of the State of Alaska, codified at AS 09.25.450 – 09.25.490, do not affect the ability of the

Letter to Ms. Emma Pokon  
Re: *Attorney General's Statement*

DATE  
Page 2 of 2

AOGCC to meet enforcement and information-gathering requirements under the Safe Drinking Water Act's UIC Program. The program set forth in the State UIC Class VI Program Description is solely administered by the AOGCC. Alaska's environmental audit privilege and immunity laws apply to the Alaska Department of Environmental Conservation and do not affect programs administered by the AOGCC. *See* 1997 Alaska Op. Atty. Gen. 57 (Alaska A.G.), 1997 WL 1089557. Thus, Alaska's environmental audit privilege and immunity laws do not affect the AOGCC's ability to carry out the program described in the State UIC Class VI Program Description in accordance with federal Safe Drinking Water Act requirements.

Sincerely,

---

Stephen J. Cox  
Attorney General

DRAFT

40 CFR 145.22(a)(4) – Memorandum of  
Agreement

DRAFT

# **CLASS VI UNDERGROUND INJECTION CONTROL PROGRAM MEMORANDUM OF AGREEMENT**

## **Between The State of Alaska And The United States Environmental Protection Agency Region 10**

### **I. GENERAL**

This Memorandum of Agreement (“Agreement”) establishes policies, responsibilities and procedures pursuant to 40 C.F.R. Parts 124, 144, 145, 146, and Section 1421 of the Safe Drinking Water Act (“SDWA” or “the Act”) for the State of Alaska Class VI Underground Injection Control Program (“Class VI UIC program”) as authorized by Part C of the SDWA (P.L. 93-523 as amended; 42 U.S.C. § 300f *et seq.*).

This Agreement is entered into by the State of Alaska and signed by Jessie Chmielowski, Thomas McKay, and Gregory Wilson, Commissioners of the State of Alaska Oil and Gas Conservation Commission (hereafter, “AOGCC”), with the United States Environmental Protection Agency, Region 10 (hereafter “EPA”), and signed by Emma Pokon, Regional Administrator (hereafter, “Regional Administrator”). This Agreement shall become effective when signed by the Regional Administrator.

### **II. POLICIES AND AGREEMENTS**

#### **A. Lead Agency Responsibilities**

The AOGCC has primacy for UIC Class II injection wells within the State of Alaska authorized by Section 1425 of the SDWA, 42 U.S.C. § 300h-4.

The AOGCC has State statutory authority to regulate Class VI injection wells under Alaska statutes 41.06.105 – 41.06.210 and is the lead State agency on behalf of the State of Alaska administering the Class VI UIC program as authorized by Section 1422 of the SDWA, 42 U.S.C. § 300h-1. Additionally, the AOGCC will be the State agency that will receive the annual program grant on behalf of the State of Alaska. This Agreement is solely applicable to AOGCC’s UIC Class VI program and does not supersede or otherwise affect the Memorandum of Agreement, fully executed on November 22, 1991, between AOGCC and the EPA regarding AOGCC’s primacy over UIC Class II injection wells within the State of Alaska.

The AOGCC shall coordinate the Class VI UIC program to facilitate communication between the EPA and the AOGCC. The AOGCC is responsible for administering the Class VI UIC program. These responsibilities shall include, but not be limited to, the submission of grant applications, reporting and monitoring results, and annual report requirements.

## 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 AOGCC or the EPA. Modifications must be in writing and must be signed by the AOGCC 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 AOGCC shall administer the Class VI UIC program consistent with the AOGCC’s submission for program approval, this Agreement, the SDWA, current federal policies and regulations, promulgated minimum requirements, priorities established as part of the annually approved state UIC grant, applicable state and federal law, and any separate working agreements entered into with the Regional Administrator as necessary for the full administration of the Class VI UIC program.

Pursuant to 40 C.F.R. § 145.1(g) nothing in this Agreement precludes the AOGCC from adopting or enforcing requirements which are more stringent or more extensive than those required under federal regulations, and if the AOGCC program has a greater scope of coverage than required by Federal law, the additional coverage is not part of the federally approved 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 the AOGCC and EPA staffs in a partnership to assure successful and effective administration of the Class VI UIC program. In this partnership, the EPA will provide to the AOGCC necessary technical and policy assistance on program matters.

The EPA is responsible for keeping the AOGCC 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 AOGCC will carry out the Class VI UIC program as outlined in the Class VI primacy application and any subsequent modifications.

It will be the policy of the EPA and the AOGCC to make the best use of available personnel and funds to prevent duplication of effort and unnecessary delays to the extent allowable by law.

The strategies and priorities for issuance, compliance, monitoring and enforcement of permits, and implementation of technical requirements shall be established in the AOGCC’s UIC Class VI Program Description, the annual SEA, and in subsequent working agreements. If requested by either party, meetings will be scheduled at reasonable intervals between the AOGCC and the 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 AOGCC shall promptly inform the EPA of any proposed, pending, or enacted modifications to laws, regulations, or guidelines, and any judicial decisions or administrative actions, which might affect the AOGCC program and the AOGCC's authority to administer the Class VI UIC program. The AOGCC shall promptly inform the EPA of any resource allocation changes (for example, personnel budget, equipment, etc.) which might affect the AOGCC's ability to administer the program.

Any information obtained or used by the AOGCC under its Class VI UIC program shall be available to the EPA upon request without restriction. If the information has been submitted to the AOGCC under a claim of confidentiality, the AOGCC must submit that claim to the EPA when providing the EPA such information. Any information obtained from the AOGCC and subject to a claim of confidentiality will be treated in accordance with 40 C.F.R. Part 2, Subpart B.

The EPA shall furnish the AOGCC the information in its files not submitted under a claim of confidentiality which the AOGCC needs to implement its approved Class VI UIC program. The EPA shall furnish to the AOGCC information submitted to the EPA under a claim of confidentiality which the AOGCC needs to implement its approved program subject to conditions in 40 C.F.R. Part 2, Subpart B. The EPA shall disclose permittees' and applicants' confidential business information to the AOGCC pursuant to 40 C.F.R. § 2.209(f). When transferring any confidential business information to the AOGCC under this Agreement, the EPA shall notify the AOGCC via cover sheet that the information has been claimed as confidential business information by the permittee(s) or applicant(s), and the AOGCC hereby agrees to protect any such information to the fullest extent permitted under State of Alaska law.

F. Duty to Revise Program

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

G. Duration of Agreement

This Agreement will remain in effect until such time as state primacy enforcement responsibility is returned to the EPA by the AOGCC, or withdrawn by the EPA, according to the provisions of 40 C.F.R. §§ 145.33 and 145.34.

H. General Provisions

Nothing in this Agreement is intended to affect any Class VI UIC or program requirement, or any standards or prohibitions established by state or local law respecting underground injection, 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 federal 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 SDWA Sections 1421, 1422, 1424, 1425, 1426, 1431 or other sections of the SDWA.

This Agreement 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 the AOGCC or the EPA, their officers or employees, or any other person. This Agreement does not direct or apply to any person outside of the AOGCC and the EPA.

### **III. PERMITTING**

#### **A. General**

The AOGCC is responsible for all Class VI well permitting procedures as detailed in the approved Class VI UIC Program Description, and pursuant to state and federal laws, rules, and regulations.

The AOGCC shall review and issue Class VI permits under the authority of Alaska statutes 41.06.105 – 41.06.210 and Alaska regulations 20 AAC 25.1000 – 20 AAC 25.1900. Class VI permits issued by the AOGCC shall be in compliance with applicable state and federal requirements.

All Class VI permit proceedings shall meet the public participation requirements at AS 41.06.125, 20 AAC 25.1150, and 20 AAC 25.1320 (c), interstate coordination requirements at 20 AAC 25.1150(b), and permitting procedures at 20 AAC 25.1060 (minimum criteria for siting), 20 AAC 25.1070 (area of review; corrective action), 20 AAC 25.1080 (storage facility permit; required Class VI well permit information), 20 AAC 25.1150 (public hearing; notice; public comment); 20 AAC 25.1210 (Class VI well construction); 20 AAC 25.1250 (testing and monitoring requirements; records of monitoring); 20 AAC 25.1310 (post-injection site care, site closure, monitoring).

#### **B. Class VI Injection Depth Waivers**

The AOGCC shall provide all information received through the injection depth waiver application process described in 20 AAC 25.1270 to the Regional Administrator. Based on the information provided, the Regional Administrator shall provide written concurrence or non-concurrence regarding waiver issuance. The AOGCC 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 AOGCC and the EPA will consult on any alternative post-injection site care timeframes (other than the 50-year default timeframe required by 20 AAC 25.1310 (h)), 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 Underground Sources of Drinking Water (“USDWs”).

D. Transfer of Responsibility from the EPA

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

E. Coordination with the EPA

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

F. Consolidation of Permit Issuance

The AOGCC and the EPA may agree on provisions for joint processing of permits for facilities or activities which require permits from both the EPA and the AOGCC under different programs. The AOGCC and the EPA may consolidate draft permits, fact sheets, public comment periods and any public hearings on those permits which are jointly processed. The AOGCC 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 AOGCC agrees to establish compliance schedules in permits where appropriate and to require periodic reporting on compliance with compliance schedules and other permit conditions.

**IV. COMPLIANCE MONITORING**

A. General

The AOGCC shall operate a timely and effective compliance monitoring system to track compliance with permit conditions and 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 AOGCC 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 AOGCC shall initiate appropriate compliance actions when required information is not received or when the reports are not submitted.

C. Review of Compliance Reports

The AOGCC shall conduct a timely and substantive review of all such reports to determine compliance status. The AOGCC 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 permit conditions and program requirements are met. The reports and notices shall be evaluated for compliance status in accordance with the AOGCC compliance program and the program requirements.

D. Inspection and Surveillance

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

The AOGCC shall conduct periodic inspections of the facilities and activities subject to regulatory requirements. These compliance monitoring inspections shall be performed to assess compliance with all Class VI 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, to verify the accuracy of information submitted by operators 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 AOGCC (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.

**V. ENFORCEMENT**

A. General

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

The AOGCC shall notify the EPA of any enforcement actions taken by the AOGCC. Failure by the AOGCC to initiate appropriate enforcement action against a substantive violation may be the basis for the EPA's determination that the AOGCC has failed to take timely enforcement action. Such a determination may result in the EPA filing an action to enforce the AOGCC's rules consistent with Section 1423 of the SDWA, 42 U.S.C. § 300h-2.

B. Enforcement Mechanisms

The AOGCC 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 AOGCC shall also have the means to sue in courts of competent jurisdiction to prohibit any threatened or continuing violation of any Class VI UIC program requirement. Additionally, the AOGCC shall have the mechanism to access or sue to recover in court civil penalties and criminal remedies as established in AS 41.06.180 and 20 AAC 25.1650.

C. EPA Enforcement

Nothing in this Agreement shall affect the EPA's authority or responsibility to take enforcement actions under Sections 1423 and 1431 of the SDWA, 42 U.S.C. §§ 300h-2 and 300i.

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

D. Assessment of Fines

The AOGCC shall agree to assess civil penalties in amounts appropriate to the violation as required in AS 41.06.180 and 20 AAC 25.1650.

**VI. EPA OVERSIGHT**

A. General

The EPA shall oversee the AOGCC's administration of the Class VI UIC program on a continuing basis to assure that such administration is consistent with this Agreement, the AOGCC UIC grant application, the SDWA and implementing regulations, and other applicable requirements.

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

B. Immediate Reporting on Noncompliance

The AOGCC shall immediately notify the Regional Administrator by telephone, or otherwise, of any major, imminent hazard to public health resulting from the endangerment of a USDW within the State of Alaska by Class VI well injection.

C. Program Reports

The AOGCC shall submit program reports to the Regional Administrator in accordance with 40 C.F.R. § 144.8. All Class VI program reports shall be submitted to the Regional Administrator in accordance with 40 C.F.R. § 144.8. The reports are to be submitted using the specified 7520 reporting forms and include a narrative.

#### D. Quarterly Program Reports

The AOGCC shall submit to the Regional Administrator quarterly non-compliance reports as specified in 40 C.F.R. § 144.8(a).

Quarterly reports will be submitted in accordance with the following schedule:

- January, February, March – due May 31
- April, May, June – due Aug. 31
- July, August, September – due Nov. 30
- October, November, December – due Feb. 28

#### E. Annual Program Reports

The AOGCC shall submit an annual program report as specified by 40 C.F.R. § 144.8(b) to the Regional Administrator sixty (60) days after the end of the calendar year ending December 31.

#### F. Major Facilities

Major facilities will include: all Class VI Facilities.

#### G. Aquifer Exemptions

Other than EPA approved aquifer exemption expansions that meet the criteria for exempted aquifers, new aquifer exemptions shall not be issued for Class VI injection activities. Even if an aquifer has not been specifically identified by the AOGCC, it is a USDW if it meets the definition at 20 AAC 25.435 and 20 AAC 25.900 (83).

#### H. Mechanical Integrity

The AOGCC may allow the use of a test to demonstrate mechanical integrity other than those listed in the approved Class VI UIC Program Description. Any alternative mechanical integrity test must receive written approval from the EPA Administrator prior to implementation and be consistent with the requirements of 20 AAC 25.1240(e).

#### I. Inspection and Surveillance by the EPA

The EPA may select facilities and activities within the State of Alaska for EPA inspection. The EPA may conduct such inspections jointly with the AOGCC. The AOGCC shall give the EPA adequate notice to participate in any compliance evaluation inspection scheduled by the AOGCC.

The EPA may also choose to conduct inspections independently of the AOGCC's schedule. In such cases, the EPA shall notify the AOGCC 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 the SDWA, 42 U.S.C. § 300j-4, the AOGCC understands not to inform the person whose property is to be entered of the pending inspection.

J. Annual Performance Evaluation

The EPA shall conduct, at least annually, performance evaluations of the UIC Class VI program using program reports and other requested information to determine UIC Class VI 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.

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

**VII. SIGNATURES**

IN WITNESS WHEREOF, the parties have executed this Agreement.

Alaska Oil and Gas Conservation Commission:

By \_\_\_\_\_  
Jessie L. Chmielowski  
AOGCC Commissioner

\_\_\_\_\_  
Date

By \_\_\_\_\_  
Thomas W. McKay  
AOGCC Commissioner

\_\_\_\_\_  
Date

By \_\_\_\_\_  
Gregory C. Wilson  
AOGCC Commissioner

\_\_\_\_\_  
Date

U.S. Environmental Protection Agency, Region 10:

By \_\_\_\_\_  
Emma Pokon  
Regional Administrator

\_\_\_\_\_  
Date

## 40 CFR 145.22(a)(5) – Copies of Applicable State Statutes and Regulations

1. Alaska Statutes – Carbon Storage and Injection – AS 41.06.105 – 41.06.210
2. Alaska Statutes – Alaska Oil and Gas Conservation Act – AS 31.05.005 – 31.05.170
3. Alaska Administrative Code:
  - 20 AAC 25.442; 20 AAC 25.444, 20 AAC 25.990 (79) – (83); and
  - 20 AAC 25.1000 – 1900, Article 9, “Carbon Storage”

1. Alaska Statutes – Carbon Storage and  
Injection – AS 41.06.105 – 41.06.210

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.105

§ 41.06.105. Jurisdiction over storage facilities

Effective: October 29, 2024

[Currentness](#)

The commission has jurisdiction under AS 41.06.105--[41.06.210](#) over storage facilities to prevent waste, protect correlative rights, and ensure public health and safety.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.105, AK ST § 41.06.105

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.110

§ 41.06.110. Authority of the commission

Effective: October 29, 2024

[Currentness](#)

(a) The authority of the commission applies to all land

(1) in the state lawfully subject to the police power of the state, including private land, municipal land, state land, federal land, and land subject to the jurisdiction of the United States; and

(2) included in a voluntary cooperative or unit plan of development or operation entered into in accordance with [AS 38.05.725](#).

(b) When land that is subject to the commission's authority is committed to a unit agreement involving land subject to federal jurisdiction, the operation of [AS 41.06.105--41.06.210](#) may be suspended if

(1) the unit operations are regulated by the United States; and

(2) conservation of resources in the reservoir or pool is accomplished in the agreement.

(c) The commission has the authority to

(1) regulate activities related to a storage facility, including the construction, operation, and closure of the facility;

(2) require that storage operators provide assurance, including bonds, that money is available to fulfill the storage operator's duties;

(3) enter, at a reasonable time and in a reasonable manner, a storage facility to

(A) inspect equipment and facilities;

(B) observe, monitor, and investigate operation; and

(C) inspect records required to be maintained at the facility;

(4) exercise continuing jurisdiction over storage operators and storage facilities, including the authority, after notice and hearing, to amend provisions in a permit and to revoke a permit; and

(5) dissolve or change the boundaries of an oil or gas field or unit established by the commission that is within or near the boundaries of a storage reservoir.

(d) To the extent AS 31.05 does not conflict with [AS 41.06.105--41.06.210](#), the provisions of AS 31.05 are applicable to wells drilled in search of, in support of, and for carbon storage.

(e) Nothing in [AS 41.06.105--41.06.210](#) limits the authority of the Department of Natural Resources under [AS 38.05.700--38.05.795](#) or [AS 41.06.305](#).

#### **Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.110, AK ST § 41.06.110

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.115

§ 41.06.115. Waste prohibited

Effective: October 29, 2024

[Currentness](#)

Waste in a storage facility or storage reservoir in the state is prohibited. The commission may investigate to determine whether waste exists or is imminent, or whether other facts exist that justify or require action by the commission to prohibit waste. The injection of carbon dioxide and substances commonly associated with carbon dioxide injection is not considered waste.

#### Credits

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.115, AK ST § 41.06.115

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.120

§ 41.06.120. Storage facility permit

Effective: October 29, 2024

[Currentness](#)

- (a) A storage operator is required to obtain a permit from the commission to operate a storage facility.
- (b) A permit may not be transferred unless the commission consents.
- (c) A person applying for a permit shall
- (1) request a preapplication meeting with the commission staff;
  - (2) comply with application requirements;
  - (3) pay a fee in an amount determined by the commission; and
  - (4) pay the commission the cost the commission incurs in reviewing the person's application, publishing notices for hearings, and holding hearings on the person's permit application.
- (d) A permit application must include sufficient information to enable the commission to determine whether the storage facility will interfere with or impair an existing water, oil, gas, or other mineral interest.
- (e) The commission shall set the amount of the fee in (c)(3) of this section based on the anticipated cost to the commission associated with processing applications, including preliminary work in advance of receiving an application. The commission may enter into an agreement with a prospective applicant that requires the applicant to reimburse the commission for reasonable costs of work incurred in preparing for activities before the commission receives an application.
- (f) The commission shall deposit fees collected under this section in the carbon dioxide storage facility administrative fund established in [AS 41.06.160](#).

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.120, AK ST § 41.06.120

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.125

§ 41.06.125. Hearing on permit application

Effective: October 29, 2024

[Currentness](#)

- (a) Before issuing a permit for a storage facility, the commission shall hold a public hearing.
- (b) The commission shall provide notice of a public hearing under this section. The commission shall provide notice in the same manner as a notice under [AS 31.05.050\(b\)](#) and shall provide notice to
- (1) each mineral lessee, mineral owner, and mineral right owner of record within the storage reservoir and within one-half mile of the boundaries of the storage reservoir;
  - (2) each surface owner of land overlying the storage reservoir and within one-half mile of the boundaries of the storage reservoir; and
  - (3) any additional persons that the commission considers necessary.
- (c) A hearing notice required by this section must comply with deadlines set by the commission.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.125, AK ST § 41.06.125

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.130

§ 41.06.130. Permit requirements

Effective: October 29, 2024

[Currentness](#)

(a) The commission shall consult with the Department of Environmental Conservation and the Department of Natural Resources before issuing a permit under [AS 41.06.120](#).

(b) Before the commission may approve a permit application submitted under [AS 41.06.120](#), the commission must find

- (1) that the storage operator has complied with all requirements set by the commission;
- (2) that the proposed storage facility is suitable and feasible for carbon storage;
- (3) that the carbon dioxide to be stored is of a quality that allows it to be safely and efficiently stored in the storage reservoir;
- (4) that the storage operator has made a good faith effort to get the consent of all persons with an ownership interest in the proposed storage reservoir and surface owners of land overlying the proposed storage reservoir;
- (5) if the proposed storage facility contains commercially valuable minerals, that the interests of the mineral owners or mineral lessees will not be adversely affected or have been addressed in an arrangement entered into by the mineral owners or mineral lessees and the storage operator;
- (6) that the proposed storage facility will not adversely affect surface water or formations containing fresh water;
- (7) that carbon dioxide is not reasonably anticipated to escape from the storage reservoir;
- (8) that substances that compromise the objectives of [AS 41.06.105--41.06.210](#) or the integrity of a storage reservoir will not enter a storage reservoir;
- (9) that the proposed storage facility will not endanger human health or unduly endanger the environment;

(10) that the proposed storage facility is in the public interest;

(11) that the horizontal and vertical boundaries of the proposed storage reservoir are defined and the boundaries include buffer areas to ensure that the storage facility is operated safely and as contemplated;

(12) that the storage operator will establish monitoring facilities and protocols to assess the location and migration of carbon dioxide injected for carbon storage and to ensure compliance with all permit, statutory, and administrative requirements;

(13) that all nonconsenting landowners or holders of mineral rights are, or will be, equitably compensated; and

(14) that the storage operator is not in violation of a provision of [AS 41.06.105](#)--[41.06.210](#) or regulations adopted by the commission.

#### Credits

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.130, AK ST § 41.06.130

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 41. Public Resources  
Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)  
Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.135

§ 41.06.135. Permit provisions

Effective: October 29, 2024

[Currentness](#)

The commission may include in a permit or order any parameters necessary to carry out the objectives of [AS 41.06.105--41.06.210](#), prevent waste, protect correlative rights, and ensure the health and safety of persons affected by the permit.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.135, AK ST § 41.06.135

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.140

§ 41.06.140. Amalgamating property interests

Effective: October 29, 2024

[Currentness](#)

If a storage operator does not obtain the consent of all persons with an ownership interest in the storage reservoir, the commission may order that the pore space rights of nonconsenting owners be included in a storage facility and subject to carbon storage. Before the commission may issue an order forming an amalgamation under this section, the commission shall provide public notice and hold a hearing.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.140, AK ST § 41.06.140

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 41. Public Resources  
Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)  
Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.145

§ 41.06.145. Certificate

Effective: October 29, 2024

[Currentness](#)

When the commission issues a permit under [AS 41.06.120](#), the commission shall also issue a certificate that states that the permit has been issued, describes the area covered, and contains other information the commission considers appropriate. The storage operator may file a copy of the certificate with the office of the recorder in the district in which the storage facility is located.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.145, AK ST § 41.06.145

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.150

§ 41.06.150. Environmental protection; storage reservoir integrity

Effective: October 29, 2024

[Currentness](#)

(a) The commission shall take action to ensure that

(1) substances that compromise the integrity of a storage reservoir do not enter a storage reservoir; and

(2) carbon dioxide does not escape from a storage facility.

(b) For the purposes of this section, and in the application of other laws, carbon dioxide that is stored and remains in carbon storage under a permit is not considered a pollutant and does not constitute a nuisance.

(c) The commission's authority under (a) of this section does not limit the jurisdiction of the Department of Environmental Conservation.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.150, AK ST § 41.06.150

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.155

§ 41.06.155. Preservation of rights

Effective: October 29, 2024

[Currentness](#)

Nothing in [AS 41.06.105--41.06.210](#)

(1) prejudices the rights of a person with a property interest in a storage facility to exercise rights that have not been committed to the storage facility; or

(2) prevents a mineral owner or mineral lessee from drilling through or near a storage reservoir to explore for and develop minerals if the drilling, production, and related activities comply with requirements set by the commission to preserve the integrity of the storage facility and protect the objectives of [AS 41.06.105--41.06.210](#).

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.155, AK ST § 41.06.155

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.160

§ 41.06.160. Carbon dioxide storage facility administrative fund

Effective: October 29, 2024

[Currentness](#)

(a) A storage operator shall pay to the commission a fee on each metric ton of carbon dioxide injected for carbon storage. The commission shall set the amount of the fee based on the anticipated expenses the commission will incur in regulating storage facilities during each phase, including the construction, operational, and pre-completion phases. The commission shall deposit a fee collected under this subsection in the carbon dioxide storage facility administrative fund established in (b) of this section.

(b) The carbon dioxide storage facility administrative fund is established in the general fund. The fund consists of

- (1) fees received under (a) of this section;
- (2) fees received under [AS 41.06.120](#) and [41.06.195](#); and
- (3) interest earned on money in the fund.

(c) Money in the carbon dioxide storage facility administrative fund shall be separately accounted for under [AS 37.05.142](#). The legislature may appropriate the money in the fund to the commission to carry out the purposes of [AS 41.06.105--41.06.210](#).

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.160, AK ST § 41.06.160

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.165

§ 41.06.165. Title to carbon dioxide

Effective: October 29, 2024

[Currentness](#)

The storage operator has title to the carbon dioxide injected into and stored in a storage reservoir and holds title until the commission issues a certificate of completion under [AS 41.06.170](#). While the storage operator holds title, the operator is liable for any damage the carbon dioxide may cause, including damage caused by carbon dioxide that escapes from the storage facility. When a certificate of completion is issued under [AS 41.06.170](#), title to carbon dioxide injected into and stored in a storage reservoir is transferred to the owner of the pore space, unless the storage operator and the owner of the pore space have a contrary agreement.

#### Credits

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.165, AK ST § 41.06.165

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.170

§ 41.06.170. Certificate of completion

Effective: October 29, 2024

[Currentness](#)

(a) Once a storage operator discontinues carbon dioxide injections into a storage reservoir, and upon application by the storage operator, the commission may issue a certificate of completion

(1) only after public notice and hearing; the commission shall establish notice requirements for a hearing under this paragraph;

(2) only after the commission consults with the Department of Environmental Conservation, the Department of Natural Resources, and all persons with an ownership interest in the storage reservoir; and

(3) after a period of at least 50 years, or another period approved by the commission for the storage reservoir based on requirements established in regulation, has elapsed since the last carbon dioxide injection into the storage reservoir.

(b) The commission may issue a certificate of completion only if the storage operator

(1) has fully complied with all laws governing the storage facility;

(2) shows that the operator has addressed all pending claims regarding the operation of the storage facility;

(3) shows that the underground place or pore space in which the injected carbon dioxide is stored is not expected to pose a threat to human health, human safety, the environment, or underground sources of drinking water;

(4) shows that the stored or injected carbon dioxide is unlikely to cross an underground or pore space boundary and is not expected to endanger an underground source of drinking water or otherwise endanger human health, human safety, or the environment;

(5) shows that all wells, equipment, and facilities allowed to remain in place following post-injection site care and site closure are in good condition and retain mechanical integrity;

(6) shows that the operator has plugged wells, removed equipment and facilities, and completed reclamation work as required by the commission and the Department of Natural Resources;

(7) has paid all fees and surcharges owed for the storage facility; and

(8) meets any other regulatory requirements established by the state.

(c) Once a certificate of completion is issued, the department assumes primary responsibility for long-term monitoring and maintenance of the storage facility, as provided in [AS 41.06.305](#). The storage operator and all persons who generated injected carbon dioxide are released from liability to the state associated with the storage facility in an amount equal to the amount attributed to the storage facility in the carbon storage closure trust fund established in [AS 37.14.850](#). The state, the department, or the commission is not liable for damages arising out of, or in any manner connected with, long-term monitoring and maintenance of a storage facility if the amount for the storage facility separately accounted for in the carbon storage closure trust fund established in [AS 37.14.850](#) is unavailable or insufficient. A bond posted by the storage operator under [AS 41.06.110\(c\)\(2\)](#) must be released. In this subsection, “long-term monitoring and maintenance” has the meaning given in [AS 41.06.305\(e\)](#).

#### **Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.170, AK ST § 41.06.170

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.175

§ 41.06.175. Carbon storage facility injection surcharge

Effective: October 29, 2024

[Currentness](#)

(a) A storage operator injecting carbon dioxide at a storage facility shall pay to the commission a surcharge each year for the first 12 years that carbon dioxide is injected at the storage facility. The commission shall deposit the surcharge into the general fund. The legislature may appropriate a surcharge collected under this subsection into the carbon storage closure trust fund established in [AS 37.14.850](#).

(b) The annual surcharge in this section is determined by the following formula:  $S = (7,500,000 \times (I/261.78)) / 12$ , where

(1) S is the dollar amount of the annual surcharge for a storage facility;

(2) I is equal to the Consumer Price Index for urban consumers for urban Alaska, as determined by the United States Department of Labor, Bureau of Labor Statistics, without seasonal adjustment, for December of the calendar year immediately preceding the year of issuance of the storage facility permit.

#### Credits

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.175, AK ST § 41.06.175

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.180

§ 41.06.180. Penalties

Effective: October 29, 2024

[Currentness](#)

(a) In addition to the penalties in (b)--(d) of this section, a person who violates a provision of [AS 41.06.105--41.06.210](#), a regulation adopted under [AS 41.06.105--41.06.210](#), or an order or term of a permit issued by the commission under [AS 41.06.105--41.06.210](#) is liable for a civil penalty of not more than \$100,000 for the initial violation and not more than \$10,000 for each day thereafter on which the violation continues.

(b) A person who knowingly commits an act specified in [AS 11.46.630\(a\)](#) for the purpose of evading a provision of [AS 41.06.105--41.06.210](#), a regulation adopted under [AS 41.06.105--41.06.210](#), or an order, stipulation, or term of a permit issued by the commission is guilty of a class A misdemeanor.

(c) A person who knowingly violates a provision of [AS 41.06.105--41.06.210](#), a regulation adopted under [AS 41.06.105--41.06.210](#), or an order, stipulation, or term of a permit issued by the commission is guilty of a class A misdemeanor punishable by a fine of not more than \$10,000 a day for each day of violation.

(d) A person who knowingly aids or abets another person in the violation of a provision of [AS 41.06.105--41.06.210](#), a regulation adopted under [AS 41.06.105--41.06.210](#), or an order, stipulation, or term of a permit issued by the commission is subject to the same penalty as that prescribed in this section for the violation by the other person.

(e) The commission may assess the civil penalties provided in this section, and, if not paid, the penalties are recoverable by suit filed by the attorney general in the name and on behalf of the commission in the superior court. The payment of a penalty does not relieve a person on whom the penalty is imposed from liability to any other person for damages arising out of the violation.

(f) In determining the amount of a penalty assessed under (a) of this section, the commission shall consider

(1) the extent to which the person committing the violation was acting in good faith in attempting to comply;

(2) the extent to which the person committing the violation acted in a wilful or knowing manner;

(3) the extent and seriousness of the violation and the actual or potential threat to public health or the environment;

- (4) the economic or environmental harm or injury to the public caused by the violation;
- (5) the economic value or other benefits derived by the person committing the violation from the commission of the violation;
- (6) any history of previous violations by the person committing the violation;
- (7) the need to deter similar behavior by the person committing the violation and others similarly situated at the time of the violation or in the future;
- (8) the effort made by the person committing the violation to correct the violation and prevent future violations; and
- (9) other matters justice requires.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.180, AK ST § 41.06.180

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.185

§ 41.06.185. Enhanced oil or gas recovery

Effective: October 29, 2024

[Currentness](#)

(a) Except as provided in (b) of this section, the provisions of [AS 41.06.105--41.06.210](#) do not apply to applications filed with the commission proposing to use carbon dioxide for enhanced oil or gas recovery.

(b) The commission may adopt regulations that allow enhanced oil or gas recovery and related well activities to be converted to a storage facility. The regulations must require that, in considering whether to approve a conversion, and upon conversion, the provisions of [AS 41.06.105--41.06.210](#) apply. The regulations may impose additional requirements to [AS 41.06.105--41.06.210](#), or describe specific situations in which the requirements of [AS 41.06.105--41.06.210](#) are waived, to ensure that the objectives of [AS 41.06.105--41.06.210](#) are met.

#### Credits

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.185, AK ST § 41.06.185

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 41. Public Resources  
Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)  
Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.190

§ 41.06.190. Cooperative agreements and contracts

Effective: October 29, 2024

[Currentness](#)

(a) The commission may enter into agreements with other governments, government entities, and state agencies for the purpose of carrying out the objectives of [AS 41.06.105--41.06.210](#).

(b) The commission may enter into contracts with private persons to assist in carrying out the objectives of [AS 41.06.105--41.06.210](#). If an emergency exists, the commission may enter into contracts without public notice and without competitive bidding.

**Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.190, AK ST § 41.06.190

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.195

§ 41.06.195. Carbon storage capacity of a storage reservoir

Effective: October 29, 2024

[Currentness](#)

(a) The commission may adopt a written policy establishing procedures and criteria that the commission will use to determine the carbon storage capacity of a storage reservoir, including for the purpose of enhanced oil or gas recovery.

(b) The purpose of determining the carbon storage capacity of a storage reservoir is to facilitate calculating the amount of stored carbon dioxide for matters including carbon credits, allowances, trading, emissions allocations, and offsets. The commission may charge a reasonable fee to a person requesting a capacity determination. The commission shall set the fee by regulation. The commission shall deposit fees received under this subsection in the carbon dioxide storage facility administrative fund established in [AS 41.06.160](#).

(c) In this section, “carbon storage capacity of a storage reservoir” means the maximum injected volume in a storage reservoir at which the pressure in the reservoir does not pose a risk to the integrity of the reservoir or its ability to maintain carbon storage.

#### **Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.195, AK ST § 41.06.195

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated

Title 41. Public Resources

Chapter 06. Geothermal Resources and Carbon Storage (Refs & Annos)

Article 2. Carbon Storage and Injection (Refs & Annos)

AS § 41.06.210

§ 41.06.210. Definitions

Effective: October 29, 2024

[Currentness](#)

In [AS 41.06.105](#)--41.06.210, unless the context requires otherwise,

- (1) “carbon dioxide” means carbon dioxide of a quality that will not compromise
  - (A) the safety of carbon storage; and
  - (B) the properties of a storage reservoir that allow the reservoir to effectively enclose and contain a stored gas or stored supercritical fluid;
- (2) “carbon storage” means the underground storage of carbon dioxide in a storage reservoir;
- (3) “commission” means the Alaska Oil and Gas Conservation Commission created under [AS 31.05.005](#);
- (4) “enhanced oil or gas recovery” means the increased recovery of hydrocarbons, including oil and gas, from a common source of supply achieved by artificial means or by the application of energy extrinsic to the common source of supply, including pressuring, cycling, pressure maintenance or injection of a substance or form of energy, including injection of water, gas, carbon dioxide, or both gas and carbon dioxide, including immiscible and miscible floods, as long as the enhanced oil or gas recovery does not include injection of a substance or form of energy for the sole purpose of
  - (A) aiding in the lifting of fluids in the well; or
  - (B) stimulation of the reservoir at or near the well by mechanical, chemical, thermal, or explosive means;
- (5) “permit” means a storage facility permit issued under [AS 41.06.120](#);
- (6) “pore space” means a cavity or void in a subsurface sedimentary stratum;

(7) “reservoir” means a subsurface sedimentary stratum, formation, aquifer, cavity, or void, including pore space, oil and gas reservoirs, saline formations, and coal seams that are suitable, or capable of being made suitable, for injection and carbon storage;

(8) “storage facility” means the storage reservoir, underground equipment, well, and surface facilities and equipment used in accordance with a permit; “storage facility” does not include pipelines, compressors, surface facilities, and equipment used to transport carbon dioxide to the storage facility that are unrelated to well safety and metering;

(9) “storage operator” means a person holding or applying for a permit;

(10) “storage reservoir” means a reservoir proposed, authorized, or used for carbon storage;

(11) “supercritical fluid” means a substance at or above its critical temperature and critical pressure that is neither a liquid nor a gas but that has properties of both;

(12) “waste” means, in addition to its ordinary meaning, physical waste, and includes inefficient, excessive, or improper operation of a storage facility or well;

(13) “well” means a well that is drilled, converted, or reactivated for discovery, testing, or subsurface injection into a reservoir.

#### **Credits**

Added by [SLA 2024, ch. 23, § 39, eff. Oct. 29, 2024](#).

AS § 41.06.210, AK ST § 41.06.210

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

2. Alaska Statutes – Alaska Oil and Gas  
Conservation Act – AS 31.05.005 –  
31.05.170

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.005

§ 31.05.005. Alaska Oil and Gas Conservation Commission created

Currentness

(a) There is created as an independent quasi-judicial agency of the state the Alaska Oil and Gas Conservation Commission, composed of three commissioners appointed by the governor and confirmed by the legislature in joint session. In making appointments to the commission under [AS 31.05.009](#) and this subsection, the governor shall consider and give preference to a person who demonstrates experience in oil and gas operations in the state.

(b) The governor shall designate one member of the commission as chair of the commission. This member shall serve as chair for a term of four years, but may not be appointed for successive terms as chair of the commission.

**Credits**

SLA 1978, ch. 158, § 1; [SLA 1992, ch. 61, § 1](#); [SLA 2000, ch. 92, § 1](#); [SLA 2006, ch. 89, § 1, eff. Oct. 7, 2006](#).

AS § 31.05.005, AK ST § 31.05.005

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.007

§ 31.05.007. Term of office; vacancy; removal

Currentness

(a) The term of office of each member is six years. A commissioner, upon the expiration of a term, shall continue to hold office until a successor is appointed and qualified.

(b) A vacancy arising in the office of a commissioner shall be filled by appointment by the governor and confirmed by the legislature in joint session, and, except as provided in [AS 39.05.080\(4\)](#), an appointee selected to fill a vacancy shall hold office for the balance of the full term for which the predecessor on the commission was appointed.

(c) A vacancy in the commission does not impair the authority of a quorum of commissioners to exercise all the powers and perform all the duties of the commission.

(d) The governor may remove a commissioner from office for cause including but not limited to incompetence, neglect of duty, or misconduct in office. A commissioner, to be removed for cause, shall be given a copy of the charges and afforded an opportunity to be publicly heard in person or by counsel in the commissioner's own defense upon not less than 10 days' notice. If a commissioner is removed for cause, the governor shall file with the lieutenant governor a complete statement of all charges made against the commissioner and the governor's finding based on the charges, together with a complete record of the proceedings.

**Credits**

SLA 1978, ch. 158, § 1; [SLA 1990, ch. 168, § 10](#); [SLA 1996, ch. 80, § 10](#).

AS § 31.05.007, AK ST § 31.05.007

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.009

§ 31.05.009. Qualifications of members

Currentness

Members shall be qualified as follows:

(1) one member shall be a petroleum engineer who

(A) holds a certificate of registration as an engineer under AS 08.48 and, under regulations adopted to implement that chapter, has qualified as a petroleum engineer; or

(B) has earned a degree from a university in the field of engineering and has at least 10 years of professional subsurface experience in the oil and gas industry in drilling, well operations, production process operations, reservoir engineering, or a combination thereof; for the purposes of this subparagraph, a person meets the requirement of earning a degree in the field of engineering if the person obtains an undergraduate or graduate degree in engineering that meets the requirements for program accreditation by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology and the person completes university or industry training specific to petroleum engineering that illustrates application of engineering principles to the problems encountered and methods used in the petroleum industry, including drilling, production, reservoir engineering, fluid flow through subsurface formations, and hydrocarbon transportation;

(2) one member shall be a geologist who

(A) holds a certification as a professional geologist under AS 08.02.060 and has professional experience in the field of petroleum geology; or

(B) has earned a degree in the field of geology from a university accredited in the field of geology and has a minimum of 10 years professional experience in the field of petroleum geology; and

(3) one member who shall have training or experience that gives the person a fundamental understanding of the oil and gas industry in the state.

**Credits**

SLA 1978, ch. 158, § 1; SLA 2000, ch. 92, § 2; SLA 2006, ch. 89, § 2, eff. Oct. 7, 2006.

AS § 31.05.009, AK ST § 31.05.009

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.010

§ 31.05.010. Repealed

Currentness

AS § 31.05.010, AK ST § 31.05.010

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.011

§ 31.05.011. Quorum

Currentness

Two members of the commission constitute a quorum for the transaction of business, for the performance of a duty, or for the exercise of a power of the commission.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.011, AK ST § 31.05.011

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.013

§ 31.05.013. Oath of office

Currentness

Each commissioner, before entering upon the duties of office, shall take and subscribe to the oath prescribed for principal officers of the state.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.013, AK ST § 31.05.013

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.015

§ 31.05.015. Compensation of members of the commission

Currentness

Members of the commission are in the exempt service and shall receive an annual salary.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.015, AK ST § 31.05.015

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.017

§ 31.05.017. Principal office; seal

Currentness

(a) The commission shall establish a principal office and branch offices necessary to discharge its business efficiently. For the convenience of the public or of parties to a proceeding the commission may hold meetings, hearings, or other proceedings at other locations.

(b) The commission shall have an official seal.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.017, AK ST § 31.05.017

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.020

§ 31.05.020. Renumbered as § 31.05.095

Currentness

AS § 31.05.020, AK ST § 31.05.020

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.021

§ 31.05.021. Legal counsel

Currentness

(a) The Department of Law shall provide full-time legal counsel to the commission. The legal counsel provided by the Department of Law is subject to the approval of the commission.

(b) The commission may, subject to the approval of the attorney general, contract for the services of additional specialized legal counsel or legal consultants.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.021, AK ST § 31.05.021

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.023

§ 31.05.023. Commission staff

Currentness

- (a) The commission shall employ such staff as it considers necessary to carry out its responsibilities.
- (b) The professional staff of the commission and the personal secretary of each commissioner are in the exempt service under [AS 39.25.110](#).
- (c) The secretarial and clerical staff of the commission, except the personal secretary of each commissioner, are in the classified service.
- (d) In addition to its staff of regular employees, the commission may contract for and engage the services of consultants and experts the commission considers necessary.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.023, AK ST § 31.05.023

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.025

§ 31.05.025. Conflict of interest

Currentness

- (a) Members and employees of the commission, except clerical and secretarial staff, are subject to AS 39.50.
- (b) A member of the commission is disqualified from voting upon any matter before the commission in which the member has a conflict of interest.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.025, AK ST § 31.05.025

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.026

§ 31.05.026. Relationship to Department of Natural Resources

Currentness

- (a) The Department of Natural Resources shall have standing before the commission to raise all issues relating to state-owned land without regard to the type of proprietary interest held by the state in that land.
- (b) With respect to federal land from which the state or any subdivision of the state is entitled under federal law to receive a share of the federal royalty interest, the Department of Natural Resources shall have the same standing before the commission as if it were the holder of the equivalent royalty interest.
- (c) When both the Department of Natural Resources and the commission have the authority to require, and do require, the submission of substantially the same information from persons subject to this chapter, the commission, in order to alleviate the administrative burdens placed on those persons, may by regulation enter into an agreement with the Department of Natural Resources whereby either the commission or the Department of Natural Resources shall have the responsibility to collect the information lawfully required by both.
- (d) For budget and audit procedures and considerations, the commission shall have the same standing as any other major state agency. Whenever practicable the commission may enter into state interagency agreements concerning administrative, employee relations, and fiscal duties.
- (e) The Department of Natural Resources shall have the same standing, no more or less, before the commission as granted by law to any other proprietary interest.

**Credits**

SLA 1978, ch. 158, § 1.

AS § 31.05.026, AK ST § 31.05.026

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.027

§ 31.05.027. Land subject to commission's authority

Effective: October 29, 2024

[Currentness](#)

The authority of the commission applies to all land in the state lawfully subject to its police powers, including land of the United States and land subject to the jurisdiction of the United States. The authority of the commission further applies to all land included in a voluntary cooperative or unit plan of development or operation entered into in accordance with [AS 38.05.180\(p\)](#) or [38.05.725](#).

**Credits**

SLA 1978, ch. 158, § 1; SLA 1980, ch. 94, § 32; [SLA 1990, ch. 86, § 1](#). Amended by [SLA 2024, ch. 23, § 2, eff. Oct. 29, 2024](#).

AS § 31.05.027, AK ST § 31.05.027

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.030

§ 31.05.030. Powers and duties of commission

Effective: October 29, 2024

[Currentness](#)

- (a) The commission has jurisdiction and authority over all persons and property, public and private, necessary to carry out the purposes and intent of this chapter.
- (b) The commission shall investigate to determine whether or not waste exists or is imminent, or whether or not other facts exist which justify or require action by it.
- (c) The commission shall adopt regulations and orders and take other appropriate action to carry out the purposes of this chapter.
- (d) The commission may require
- (1) identification of ownership of wells, producing leases, tanks, plants, and drilling structures;
  - (2) the making and filing of reports, well logs, drilling logs, electric logs, lithologic logs, directional surveys, and all other subsurface information on a well for which a permit to drill has been issued by the commission, subject to the following:
    - (A) the reports required to be filed by the commission under this paragraph shall be filed within 30 days after the completion, abandonment, or suspension of the well; and
    - (B) the well logs, drilling logs, electric logs, lithologic logs, directional surveys, and all other information required to be filed by the commission under this paragraph shall be filed within 90 days after the completion, abandonment, or suspension of the well, unless extended by the commission on request;
  - (3) the drilling, casing, and plugging of wells in a manner that will prevent the escape of oil or gas out of one stratum into another, the intrusion of water into an oil or gas stratum, the pollution of fresh water supplies by oil, gas, or salt water, and prevent blowouts, cavings, seepages, and fires;
  - (4) the furnishing of a reasonable bond with sufficient surety conditions for the performance of the duty to plug each dry or abandoned well or the repair of wells causing waste;

- (5) the operation of wells with efficient gas-oil and water-oil ratios, and may fix these ratios;
  - (6) the gauging or other measuring of oil and gas to determine the quality and quantity of oil and gas;
  - (7) every person who produces oil or gas in the state to keep and maintain for a period of five years in the state complete and accurate records of the quantities of oil and gas produced, which shall be available for examination by the commission at all reasonable times;
  - (8) the measuring and monitoring of oil and gas pool pressures;
  - (9) the filing and approval of a plan of development and operation for a field or pool to prevent waste, ensure a greater ultimate recovery of oil and gas, and protect the correlative rights of persons owning interests in the tracts of land affected.
- (e) The commission may regulate
- (1) for conservation purposes and, to the extent not in conflict with regulation by the Department of Labor and Workforce Development or the Department of Environmental Conservation, for public health and safety purposes,
    - (A) the drilling, producing, and plugging of wells;
    - (B) the perforating, fracture stimulation, and chemical treatment of wells;
    - (C) the spacing of wells;
    - (D) the disposal of salt water, nonpotable water, and oil field wastes;
    - (E) the contamination or waste of underground water;
    - (F) the quantity and rate of the production of oil and gas from a well or property; this authority shall also apply to a well or property in a voluntary cooperative or unit plan of development or operation entered into in accordance with [AS 38.05.180\(p\)](#);
    - (G) the underground injection of gas for purposes of storage;
  - (2) the disposal of drilling mud, cuttings, and nonhazardous drilling operation wastes in the annular space of a well for which a permit to drill has been issued by the commission; in this paragraph, a “nonhazardous drilling operation waste” means a waste, other than a hazardous waste identified by the Environmental Protection Agency in 40 C.F.R., Part 261,<sup>1</sup> its regulation identifying and listing hazardous wastes, associated with the act of drilling a well for exploratory or production purposes.

(f) The commission may classify a well or a specific portion of a well as an exploratory, development, service, or stratigraphic test well and may classify a development well as an oil or gas well for purposes material to the interpretation or enforcement of this chapter.

(g) When the commission finds sufficient likelihood of an unexpected encounter of oil, gas, or other hazardous substance as a result of well drilling in an area of the state, the commission may, by regulation, designate the area and specify a depth in the area as one in which wells or any boring into the soil in excess of the specified depth but not otherwise subject to this chapter are subject to the regulations and requirements adopted under this section. The designation of an area or specification of a depth under this subsection does not constitute a certification that no hazardous substance will be encountered in another area or at a lesser depth, and the state is not liable for any damages arising from such an unexpected encounter of a hazardous substance.

(h) The commission may take all actions necessary to allow the state to acquire primary enforcement responsibility under [42 U.S.C. 300h-1](#) and [42 U.S.C. 300h-4](#) (Safe Drinking Water Act of 1974, as amended, [42 U.S.C. 300f--300j-26](#)), for the control of underground injection related to the recovery and production of oil and natural gas and the control of underground injection in Class I wells, as defined in [40 C.F.R. 144.6](#), as amended, and the control of underground injection in Class VI wells, as defined in [40 C.F.R. 144.6](#), as amended.

(i) The commission shall accept written plans submitted by lessees for purposes of [AS 38.05.180\(f\)\(5\)](#). If a lessee submits a plan, the commission shall hold a public hearing on the plan and, within 45 days after receipt of the plan, grant approval of the plan if the plan contains a voluntary agreement by the lessee to use its best efforts to employ residents of this state, consistent with law, and to contract with firms in this state for work in connection with the development of the field, including the fabrication and installation of required facilities, whenever feasible. The decision of the commission to grant approval may not be appealed.

(j) For exploration and development operations involving nonconventional gas, the commission

(1) may not

(A) issue a permit to drill under this chapter if the well would be used to produce gas from an aquifer that serves as a source of water for human consumption or agricultural purposes unless the commission determines that the well will not adversely affect the aquifer as a source of water for human consumption or agricultural purposes; or

(B) allow injection of produced water except at depths below known sources of water for human consumption or agricultural purposes;

(2) shall

(A) regulate hydraulic fracturing in nonconventional gas wells to ensure protection of drinking water quality;

(B) regulate the disposal of wastes produced from the operations unless the disposal is otherwise subject to regulation by the Department of Environmental Conservation or the United States Environmental Protection Agency;

(C) as a condition of approval of a permit to drill a well for regular production of coal bed methane, require the operator to design and implement a water well testing program to provide baseline data on water quality and quantity; the commission shall make the results of the water well testing program available to the public.

(k) The commission shall certify to the Department of Natural Resources the volume of oil production from a field or platform for the purposes of [AS 38.05.180\(f\)\(6\)\(A\)](#), (C), (E), and (G).

(l) For purposes of [AS 46.04.050\(c\)](#) and upon application by the operator, the commission shall evaluate the likelihood that a well at a natural gas exploration facility may penetrate a formation capable of flowing oil to the ground surface and issue a determination based on results of the evaluation. If the commission determines that evidence obtained through the evaluation demonstrates with reasonable certainty that a well will not penetrate a formation capable of flowing oil to the ground surface, it shall report its determination to the Department of Environmental Conservation. In this subsection,

(1) “natural gas exploration facility” has the meaning given in [AS 46.04.050\(c\)](#);

(2) “oil” has the meaning given in [AS 46.04.050\(c\)](#).

(m) The commission has jurisdiction and authority over all persons and property, public and private, necessary to carry out the purposes and intent of AS 41.06, except for provisions in [AS 41.06.005--41.06.060](#) and [41.06.305](#) for which the Department of Natural Resources has jurisdiction.

(n) Upon request of the commissioner of revenue, the commission shall determine the commencement of regular production from a lease or property for purposes of [AS 43.55.160\(f\)](#) and (g) and [43.55.165\(n\)](#) and (o).

#### Credits

SLA 1955, ch. 40, § 4; SLA 1960, ch. 75, § 2; SLA 1970, ch. 209, § 1; SLA 1977, ch. 87, § 1; SLA 1978, ch. 160, §§ 1, 2; SLA 1984, ch. 91, § 1; [SLA 1995, ch. 11, § 1](#); [SLA 1998, ch. 29, § 1](#); [SLA 2003, ch. 45, § 2](#); [SLA 2003, ch. 59, § 1](#); [SLA 2004, ch. 49, § 4](#); [SLA 2005, ch. 32, § 1](#); [SLA 2005, ch. 79, §§ 1, 6](#). Amended by [SLA 2007, ch. 54, §§ 2 to 5](#), eff. July 13, 2007; [SLA 2010, ch. 38, § 1](#), eff. July 1, 2010; [SLA 2014, ch. 9, § 14](#), eff. April 23, 2014; 4th Sp. Sess. 2016, ch. 4, § 1, eff. Jan. 1, 2017; 2nd Sp. Sess. 2017, ch. 3, § 1, eff. Jan. 1, 2018; [SLA 2023, ch. 2, § 1](#), eff. May 24, 2023; [SLA 2024, ch. 23, § 3](#), eff. Oct. 29, 2024.

---

#### Footnotes

<sup>1</sup> See 40 C.F.R. § 261.1 et seq.

AS § 31.05.030, AK ST § 31.05.030

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.032

§ 31.05.032. Certification of gas storage capacity

Currentness

- (a) An owner of a gas storage facility that seeks an exemption under [AS 38.05.180\(u\)](#) or a credit under [AS 43.20.046](#) shall apply to the commission for certification of the facility's working gas storage capacity and certification of the facility's gas withdrawal capability. The application shall be on a form prescribed by the commission.
- (b) Within six months after receiving an application under (a) of this section, the commission shall determine and certify
- (1) the working gas storage capacity of the facility on the date the facility commences commercial operation rounded to the nearest 500,000,000 cubic feet;
  - (2) whether the gas storage facility is capable of withdrawing a minimum of 10,000,000 cubic feet of gas a day; and
  - (3) that the facility qualifies as a gas storage facility for the purposes of this section.
- (c) The commission shall provide a copy of the certifications required by (b) of this section to the owner of the gas storage facility that requested the certification, the commissioner of natural resources, and the commissioner of revenue.
- (d) If a gas storage facility ceases commercial operation, an owner of the gas storage facility shall give written notice to the commission that commercial operation has ceased. The notice must be filed with the commission before April 1 of the year immediately following the year in which the gas storage facility ceases commercial operation.
- (e) In this section,
- (1) “ceases commercial operation” means that the gas storage facility fails to inject or withdraw more than 100,000,000 cubic feet of gas during a calendar year following the year in which a gas storage facility commences commercial operation;
  - (2) “commences commercial operation” means the first injection of non-native gas into a gas storage facility for purposes other than testing;

- (3) “cushion gas” means native and non-native gas in a gas storage facility that is needed to pressurize the facility and that allows the facility to function;
- (4) “gas storage facility” means a tank or a depleted or nearly depleted reservoir or pool in the state that is available for the storage of gas;
- (5) “native gas” means gas in a gas storage facility that was not injected;
- (6) “non-native gas” means gas that is produced elsewhere and injected into a gas storage facility;
- (7) “pool” has the meaning given in [AS 31.05.170](#);
- (8) “working gas storage capacity” means the maximum volume of non-native gas a gas storage facility may safely contain without creating or causing waste; the maximum volume of non-native gas does not include the volume of cushion gas present or the volume required for proper functioning of the gas storage facility at the working gas storage capacity certified under (b) of this section.

**Credits**

Added by [SLA 2010, ch. 16, § 2, eff. May 13, 2010](#).

AS § 31.05.032, AK ST § 31.05.032

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.035

§ 31.05.035. Confidential reports

Currentness

- (a) For all wells for which a permit to drill has been issued by the commission, the commission may require
- (1) the making and filing of reports, well logs, drilling logs, electric logs, lithologic logs, directional surveys, and all other subsurface information on a well for which a permit to drill has been issued by the commission;
  - (2) the filing of flow test information and all logs, except experimental logs and velocity surveys run on a well and not required by (1) of this subsection; and
  - (3) the operator to make available for copying the digitized log information, if it is available, on any log required to be filed under (1) or (2) of this subsection.
- (b) Reports and information required under (a)(1) and (2) of this section shall be filed within 30 days after the completion, abandonment, or suspension of a well. However, under (a)(1) of this section, the commission may not require the making of a log on a well completed, abandoned, or suspended before June 19, 1970.
- (c) The reports and information required in (a) of this section that relate to an exploratory or stratigraphic test well and those portions of an application for a permit to drill an exploratory or stratigraphic test well that the commission determines contain proprietary engineering or geotechnical information shall be kept confidential for 24 months following the 30-day filing period unless the owner of the well gives written permission to release the application and reports and information at an earlier date. If the commissioner of natural resources finds that the required reports and information contain significant information relating to the valuation of unleased land in the same vicinity, the commissioner shall keep the reports and information confidential for a reasonable time after the disposition of all affected unleased land, unless the owner of the well gives written permission to release the reports and information at an earlier date. Well surface and bottom hole locations, well depth, well status, production data, and production reports required by the commission to be filed subsequent to the 30-day filing period shall be considered public information and may not be classified confidential. "Production data," as used in this subsection, means volume, gravity, and gas-oil ratio of all production of oil or gas after the well begins regular production.
- (d) Engineering, geological, and other information not required by (a) of this section but voluntarily filed with the commission shall be kept confidential if the person filing the information so requests.

(e) Notwithstanding (c) of this section, claims of confidentiality will be denied for information disclosed to the commission under [AS 31.05.030\(h\)](#) that is required to be disclosed under [42 U.S.C. 300h-4](#).

(f) Confidentiality under (d) of this section is not applicable to information submitted with or as part of a petition for a commission order or to information submitted for or as part of a hearing before the commission.

**Credits**

SLA 1970, ch. 209, § 2; SLA 1978, ch. 160, §§ 3--6; SLA 1984, ch. 6, § 86; SLA 1984, ch. 91, § 2. Amended by [SLA 2007, ch. 54, §§ 6 to 8, eff. July 13, 2007](#).

AS § 31.05.035, AK ST § 31.05.035

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.040

§ 31.05.040. Regulations and orders

Currentness

- (a) The commission shall adopt regulations governing practice and procedure before it under this chapter.
- (b) All orders issued by the commission shall be in writing, shall be entered in full and indexed in books kept by the commission for that purpose, and shall be public records open for inspection at all times during reasonable office hours. A copy of an order certified by the commission, under its seal, shall be received in evidence in all courts of the state with the same effect as the original.

**Credits**

SLA 1955, ch. 40, § 9(1) and (5).

AS § 31.05.040, AK ST § 31.05.040

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.050

§ 31.05.050. Notice

Currentness

(a) A notice required by this chapter shall be given in accordance with AS 44.62 (Administrative Procedure Act).

(b) Procedures to be followed under (a) of this section do not apply if the nature of the notice is not of a statewide or general application but is concerned only with operations on a single well or within a single field and the modification of procedure is within the authority delegated to the commission under [AS 31.05.030](#). A notice required by this chapter shall be given by one publication in a newspaper published in the borough in which the hearing is to be held, or if none is published in the borough, in a newspaper published in this state and circulating within the borough, and posted in at least one public place within the borough, at least 10 days before the date of the hearing. The notice shall be issued in the name of the state, shall be signed by the commission, and shall specify the style and number of the proceeding, the time and place of the hearing, and shall briefly state the purpose of the proceeding. The commission may also give, or require the giving of, additional notice in a proceeding, or class of proceeding, which it considers necessary or desirable.

**Credits**

SLA 1955, ch. 40, § 9(4); SLA 1968, ch. 190, § 1; SLA 1969, ch. 87, § 1.

AS § 31.05.050, AK ST § 31.05.050

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.060

§ 31.05.060. Action by commission

Currentness

(a) The commission may act upon its own motion, or upon the petition of an interested person. On the filing of a petition concerning a matter within the jurisdiction of the commission under this chapter, the commission shall promptly fix a date for a hearing, and shall cause notice of the hearing to be given. The hearing shall be held without undue delay after the filing of the petition. The commission shall enter its order within 30 days after the hearing.

(b) Except as provided in this subsection, any action by the commission under this chapter that has statewide or general application shall be performed in accordance with AS 44.62 (Administrative Procedure Act). Any action by the commission under this chapter that has application to a single well or single field need not comply with the provisions of [AS 44.62.330--44.62.630](#), but shall be performed in accordance with regulations of the commission designed to afford persons affected by the action notice and an opportunity to be heard.

(c) Notwithstanding the requirements of (a) and (b) of this section that relate to fixing a date for a hearing and causing notice of the hearing to be given, for an action under this chapter that involves the exploration for or development of nonconventional gas and that has application to a single well or a single field, upon the request of a lessee or operator, the commission may, where operations might be unduly delayed, approve a variance from the commission's regulations that apply to the well or field without providing notice and opportunity to be heard. In the exercise of its authority to issue the variance,

(1) the commission may approve the variance if

(A) the approval provides at least an equally effective means of accomplishing the requirement set out in the commission's regulation; or

(B) the commission determines that the request is more appropriate to the proposed operation than compliance with the requirement of the regulation; and

(2) the terms of the approval of the variance may include exempting the lessee or operator from a requirement of a regulation if the commission determines that the requirement is not necessary or not suited to the well or field taking into consideration

(A) the nature of the operation involved;

(B) the characteristics of the well or field for which the variance is sought; and

(C) the reasonably anticipated risks of the exemption from the requirement to human safety and the environment.

(d) The provisions of (c) of this section do not apply to authorize approval of a variance from the commission's regulations that relate to underground injection.

**Credits**

SLA 1955, ch. 40, § 9(6); SLA 1978, ch. 160, § 7; [SLA 2003, ch. 45, § 3](#); [SLA 2004, ch. 49, § 5](#).

AS § 31.05.060, AK ST § 31.05.060

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.070

§ 31.05.070. Attendance and testimony of witnesses

Currentness

(a) The commission may summon witnesses, administer oaths, and require the production of records, books, and documents for examination at a hearing or investigation conducted by it. A person may not be excused from attending and testifying, or from producing books, papers, and records before the commission or a court, or from obedience to the subpoena of the commission or a court, on the ground or for the reason that the testimony or evidence, documentary or otherwise, required of that person may tend to incriminate or subject that person to a penalty or forfeiture. This section does not require a person to produce books, papers, or records, or to testify in response to an inquiry not pertinent to some question lawfully before the commission or court for determination. A natural person is not subject to criminal prosecution or to a penalty or forfeiture for or on account of any transaction, matter or thing concerning which, in spite of objection, that person may be required to testify or produce evidence, documentary or otherwise, before the commission or court, or in obedience to its subpoena. However, a person testifying is not exempt from prosecution and punishment for perjury committed in so testifying.

(b) If a person fails or refuses to comply with the subpoena issued by the commission, or refuses to testify as to any matter regarding which the person may be interrogated, any court of record in the state, upon application of the commission, may issue an attachment for the person and compel that person to comply with the subpoena, and attend before the commission and produce the records, books, and documents for examination, and give testimony. The court may punish for contempt as in the case of disobedience to a subpoena issued by the court, or for refusal to testify in court.

**Credits**

SLA 1955, ch. 40, § 10.

AS § 31.05.070, AK ST § 31.05.070

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.080

§ 31.05.080. Reconsiderations

Currentness

(a) Within 20 days after written notice of the entry of an order or decision of the commission, or such further time as the commission grants for good cause shown, a person affected by it may file with the commission an application for reconsideration of the matter determined by the order or decision, setting out the respect in which the order or decision is believed to be erroneous. The commission shall grant or refuse the application in whole or in part within 10 days after it is filed, and failure to act on it within this period is a refusal of it and a final disposition of the application. If reconsideration is granted, the commission may enter a new order or decision after reconsideration as may be required under the circumstances.

(b) Repealed by [SLA 2009, ch. 41, § 82, eff. June 21, 2009](#).

(c) Repealed by [SLA 2007, ch. 54, § 15, eff. July 13, 2007](#).

(d) Repealed by [SLA 2007, ch. 54, § 15, eff. July 13, 2007](#).

**Credits**

SLA 1955, ch. 40, § 11. Amended by [SLA 2007, ch. 54, §§ 9, 10, 15, eff. July 13, 2007](#); [SLA 2009, ch. 41, § 82, eff. June 21, 2009](#).

AS § 31.05.080, AK ST § 31.05.080

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 1. Administration

AS § 31.05.085

§ 31.05.085. Expenses of investigation or hearing

Currentness

(a) During a hearing or investigation held under this chapter, the commission may allocate the costs of the hearing or investigation among the parties, including the commission, as is just under the circumstances. In allocating costs, the commission shall consider the regulatory cost charge paid by a person under [AS 31.05.093](#) and may consider the results, evidence of good faith, other relevant factors, and mitigating circumstances. The costs allocated may include

- (1) the costs of any time devoted to the investigation or hearing by hired consultants, whether or not the consultants appear as witnesses or participants;
- (2) any out-of-pocket expenses incurred by the commission in the particular proceeding; and
- (3) when the investigation or hearing relates to a violation of a provision of this chapter, a regulation adopted under this chapter, or an order, stipulation, or term of a permit issued by the commission, the costs of any time devoted to the investigation or hearing by the commission staff.

(b) The commission shall provide an opportunity for any person objecting to an allocation to be heard before the allocation becomes final.

**Credits**

[SLA 1999, ch. 34, § 1](#). Amended by [SLA 2007, ch. 54, § 11, eff. July 13, 2007](#).

AS § 31.05.085, AK ST § 31.05.085

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 2. Regulation of Operations

AS § 31.05.090

§ 31.05.090. Permits to drill wells

Currentness

- (a) A person shall apply for and receive a permit from the commission before drilling
- (1) a well in search of oil or gas;
  - (2) a well in support of the recovery or production of oil or gas;
  - (3) an underground injection well for the purpose of gas storage; or
  - (4) an underground injection well for which the state has acquired primary enforcement responsibility under [AS 31.05.030\(h\)](#).
- (b) A person must submit a separate permit application for each well. The permit application must be in the form required by the commission and include all information required by the commission.
- (c) After receiving an application under (b) of this section, the commission shall promptly approve or deny the application for a permit to drill.
- (d) In making a determination under (c) of this section, the commission shall consider whether the
- (1) proposed well is contrary to law, a provision of this chapter, a regulation adopted under this chapter, or an order, stipulation, or term of a permit issued by the commission; or
  - (2) applicant is in violation of a provision of this chapter, a regulation adopted under this chapter, or an order, stipulation, or term of a permit issued by the commission and the magnitude of such violation.

**Credits**

SLA 1955, ch. 40, § 5; SLA 1970, ch. 120, § 1. Amended by [SLA 2007, ch. 54, § 12](#), eff. July 13, 2007.

AS § 31.05.090, AK ST § 31.05.090

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 2. Regulation of Operations

AS § 31.05.093

§ 31.05.093. Regulated well regulatory cost charge

Currentness

(a) Every person that on the first day of a state fiscal year is the operator of a well for which a permit to drill has been issued under [AS 31.05.090](#) and that has not, before that day, been plugged and abandoned and reported as abandoned in accordance with regulations of the commission shall pay to the commission an annual regulatory cost charge for that fiscal year. A regulatory cost charge may not be collected from a person unless the operation for which the person is responsible is within the jurisdiction of the commission.

(b) The commission shall annually determine regulatory cost charges under this section. The regulatory cost charge to be paid by a person for a state fiscal year must be based on the total volume during the most recently concluded calendar year for the wells described in (a) of this section of which the person was the operator on the first day of the fiscal year as a percentage of the total volume during the same calendar year for all wells described in (a) of this section. For purposes of this subsection, “total volume” means the sum of the volume of all oil and gas produced from a well and all oil, gas, water, and other fluids, including waste slurry, injected into the well. For purposes of determining volume under this subsection, 6,000 cubic feet of gas has a volume that is the equivalent of one barrel of oil.

(c) The commission shall determine the regulatory cost charges levied under this section so that the total amount to be collected approximately equals the appropriations made for the operating costs of the commission under this chapter for the fiscal year.

(d) The commission shall administer the collection of the regulatory cost charges imposed under this section. The Department of Administration shall identify the amount of the appropriations made for the operating costs of the commission under this chapter that lapses into the general fund each year. The legislature may appropriate to the commission for its operating costs under this chapter for the next fiscal year an amount that is at least equal to the lapsed amount. If the legislature makes an appropriation to the commission under this subsection that is at least equal to the lapsed amount, the commission shall reduce the total regulatory cost charge collected for that fiscal year by a comparable amount.

(e) The commission may adopt regulations under [AS 44.62](#) (Administrative Procedure Act) necessary to administer this section, including regulations for investigation of the accuracy of reported information and for collecting required payments.

**Credits**

[SLA 1999, ch. 34, § 2](#). Amended by [SLA 2007, ch. 54, § 13](#), eff. July 13, 2007.

AS § 31.05.093, AK ST § 31.05.093

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 2. Regulation of Operations

AS § 31.05.095

§ 31.05.095. Waste prohibited

Currentness

The waste of oil and gas in the state is prohibited.

**Credits**

SLA 1955, ch. 40, § 1.

AS § 31.05.095, AK ST § 31.05.095

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 2. Regulation of Operations

AS § 31.05.100

§ 31.05.100. Establishment of drilling units for pools

Effective: September 27, 2022

[Currentness](#)

(a) For the prevention of waste, to protect and enforce correlative rights, and to avoid the augmenting and accumulation of risks arising from the drilling of an excessive number of wells, or the reduced recovery that might result from too small a number of wells, the commission may establish a drilling unit or units for each pool. The establishment of a unit for gas shall be limited to the production of gas.

(b) Each well permitted to be drilled on a drilling unit shall be drilled under the rules and regulations and in accordance with the spacing pattern as the commission prescribes for the pool in which the well is located. Exceptions to the rules and spacing pattern may be granted where it is shown that the unit is partly outside the pool, or that for some other reason a well located on the unit would be nonproductive, or topographical conditions make the drilling at a location unduly burdensome. If an exception is granted, the commission shall take action to offset any advantage that the person securing the exception may have over other producers because of the drilling of the well as an exception, and so that drainage from developed units to the tract with respect to which the exception is granted will be prevented or minimized, and the producer of the well drilled as an exception will be allowed to produce not more than a just and equitable share of the oil and gas in the pool.

(c) When two or more separately owned tracts of land are embraced within an established drilling unit, persons owning the drilling rights in it and the right to share in the production from it may agree to pool their interests and develop their lands as a drilling unit. If the persons do not agree to pool their interests, the commission may enter an order pooling and integrating their interests for the development of their lands as a drilling unit for the prevention of waste, for the protection of correlative rights, or to avoid the drilling of unnecessary wells. Orders effectuating such pooling shall be made after notice and hearing, and shall be upon terms and conditions which will afford to the owner of each tract the opportunity to recover or receive the owner's just and equitable share of the oil and gas in the pool without unnecessary expense. Operations incident to the drilling of a well upon a portion of a unit covered by a pooling order shall be considered for all purposes to be the conduct of the operation upon each separately owned tract in the unit by the several lessees of it. The portion of the production allocated to the lessee of each tract included in a drilling unit formed by a pooling order shall, when produced, be considered as if it had been produced from the tract by a well drilled on it. If pooling is effectuated, the cost of development and operation of the pooled unit chargeable by the operator to the other interested lessee is limited to the actual and reasonable expenditures for this purpose, including a reasonable charge for supervision. As to lessees who refuse to agree upon pooling, the order shall provide for reimbursement for costs chargeable to each lessee out of, and only out of, production from the unit belonging to such lessee. In the event of a dispute relative to the costs, the commission shall determine the proper costs upon notice to all interested parties and hearing. Appeals may be taken from the determination as from any other order of the commission. If a lessee drills and operates, or pays the expense of drilling and operating the well for the benefit of others, then in addition to any other right conferred by the pooling order, the lessee drilling or operating has a lien on the share of production from the unit accruing to the interest of each of the other lessees for the payment of the proportionate share of such expenses. All the oil and gas subject to the lien, or so

much of the oil and gas subject to the lien as is necessary shall be marketed and sold by the creditor, and the proceeds applied in payment of the expenses secured by the lien, with the balance, if any, payable to the debtor.

(d) The commission shall, in all instances where a unit has been formed out of lands or areas of more than one ownership, require the operator, upon request of a lessee, but subject to the right of the operator to market production and collect the proceeds with respect to a lessee in default, as provided in (c) of this section, to deliver to the lessee or assigns the lessee's proportionate share of the production from the well common to the drilling unit. The lessee receiving a share shall provide at the lessee's own expense proper receptacles for the receipt and storage of it.

(e) If persons owning the drilling or other rights in separate tracts embraced within a drilling unit fail to agree upon the pooling of the tracts and the drilling of the well on the unit, and if the commission is without authority to require pooling as provided by this section, then, subject to all other applicable provisions of this chapter, the lessee of each tract embraced within the drilling unit may drill on the lessee's tract, but the allowable production from the tract shall be the proportion of the allowable production for the full drilling unit as the area of the separately owned tract bears to the full drilling unit.

(f) The commission may adopt well spacing regulations to protect correlative rights.

#### **Credits**

SLA 1955, ch. 40, § 6. Amended by [SLA 2022, ch. 13, §§ 1 to 3, eff. Sept. 27, 2022](#).

AS § 31.05.100, AK ST § 31.05.100

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 2. Regulation of Operations

AS § 31.05.110

§ 31.05.110. Unitization and unitized operation of pools and integration of interests by agreement

Currentness

(a) To prevent, or to assist in preventing waste, to insure a greater ultimate recovery of oil and gas, and to protect the correlative rights of persons owning interests in the tracts of land affected, these persons may validly integrate their interests to provide for the unitized management, development, and operation of such tracts of land as a unit. Where, however, they have not agreed to integrate their interests, the commission, upon proper petition, after notice and hearing, has jurisdiction, power and authority, and it is its duty to make and enforce orders and do the things necessary or proper to carry out the purposes of this section.

(b) If upon the filing of a petition by or with the commission and after notice and hearing, all in the form and manner and in accordance with the procedure and requirements provided in this section, the commission finds that (1) the unitized management, operation and further development of a pool or portion of a pool is reasonably necessary in order to effectively carry on pressure control, pressure-maintenance or repressuring operations, cycling operations, water flooding operations, or any combination of these, or any other form of joint effort calculated to substantially increase the ultimate recovery of oil and gas from the pool; (2) one or more of the unitized methods of operation as applied to the pool or portion of it is feasible, and will prevent waste and will with reasonable probability result in the increased recovery of substantially more oil and gas from the pool than would otherwise be recovered; (3) the estimated additional cost, if any, of conducting such operations will not exceed the value of the additional oil and gas so recovered; and (4) the unitization and adoption of one or more of the unitized methods of operation is for the common good, it shall make a finding to that effect and make an order creating the unit and providing for the unitization and unitized operation of the pool or portion of it described in the order, upon the terms and conditions, as may be shown by the evidence to be fair, reasonable, equitable, and which are necessary or proper to protect, safeguard, and adjust the respective rights and obligations of the several persons affected, including royalty owner, owners of overriding royalties, oil and gas payments, carried interests, mortgages, lien claimants and others, as well as the lessees. The petition shall set out a description of the proposed unit area with a map or plat of it attached, shall allege the existence of the facts required to be found by the commission as provided in this subsection and shall have attached to it a recommended plan of unitization applicable to the proposed unit area and which the petitioner considers to be fair, reasonable, and equitable.

(c) The order of the commission shall define the boundary of the area to be included within the unit area and prescribe with reasonable detail the plan of unitization applicable to it. Each unit and unit area may be limited to all or a portion of a single pool. Only so much of a pool or pools as has been defined and determined to be productive on the basis of information available to the commission may be so included within the unit area. A unit may be created to embrace less than the whole of a pool only where it is shown by the evidence that the area to be so included within the unit area is of a size and shape as may be reasonably required for the successful and efficient conduct of the unitized method of operation for which the unit is created, and that the conduct of it will have no material adverse effect upon the remainder of the pool. The plan of unitization for each unit and unit area shall be one suited to the needs and requirements of the particular unit dependent upon the facts and conditions found to exist with respect to it. In addition to other terms, provisions, conditions and requirements found by the commission to be reasonably necessary or proper to carry out the purpose of this chapter, and subject to the further requirements of this section, each plan of unitization shall contain fair, reasonable, and equitable provisions for

- (1) the efficient unitized management or control of the further development and operation of the unit area for the recovery of oil and gas from the pool affected; under such a plan the actual operations within the unit area may be carried on in whole or in part by the unit itself, or by one or more of the lessees within the unit area as the unit operator subject to the supervision and direction of the unit, dependent upon what is most beneficial or expedient; the designation of the unit operator shall be by vote of the lessees in the unit in a manner provided in the plan of unitization and not by the commission;
  
  - (2) the division of interest or formula for the apportionment and allocation of the unit production, among and to the several separately owned tracts within the unit area such as will reasonably permit persons otherwise entitled to share in or benefit by the production from such separately owned tracts to produce and receive, instead thereof, their fair, equitable, and reasonable share of the unit production or other benefits of it; a separately owned tract's fair, equitable, and reasonable share of the unit production shall be measured by the value of each such tract for oil and gas purposes and its contributing value to the unit in relation to like values of other tracts in the unit, taking into account acreage, the quantity of oil and gas recoverable from it, location on the structure, its probable productivity of oil and gas in the absence of unit operations, the burden of operations to which the tract will or is likely to be subjected, or so many of these factors, or such other pertinent engineering, geological, or operating factors as may be reasonably susceptible of determination; "unit production" as that term is used in this chapter means all oil and gas produced from a unit area from the effective date of the order of the commission creating the unit regardless of the well or tract within the unit area from which the same is produced;
  
  - (3) the manner in which the unit and the further development and operation of the unit area shall or may be financed and the basis, terms, and conditions on which the cost and expense of it shall be apportioned among and assessed against the tracts and interests made chargeable with it, including a detailed accounting procedure governing all charges and credits incident to such operations; upon terms and conditions as to time and rate of interest as may be fair to all concerned, reasonable provision shall be made in the plan of unitization for carrying or otherwise financing lessees who are unable to promptly meet their financial obligations in connection with the unit;
  
  - (4) the procedure and basis upon which wells, equipment, and other properties of the several lessees within the unit area are to be taken over and used for unit operations, including the method of arriving at the compensation for it, or of otherwise proportionately equalizing or adjusting the investment of the several lessees in the project as of the effective date of unit operation;
  
  - (5) the creation of an operating committee to have general overall management and control of the unit and the conduct of its business and affairs and the operations carried on by it, together with the creation or designation of other subcommittees, boards or officers to function under the authority of the operating committee as may be necessary, proper or convenient in the efficient management of the unit, defining the powers and duties of all the committees, boards and officers, and prescribing their tenure and time and method for their selection;
  
  - (6) the time when the plan of unitization becomes effective;
  
  - (7) the time when and the conditions under which and the method by which the unit shall or may be dissolved and its affairs wound up.
- (d) Repealed.

(e) Except as otherwise expressly provided in this section, all proceedings held under this chapter, including the filing of petitions, the giving of notices, the conduct of hearings and other action taken by the commission shall be in the form and manner and in accordance with the procedure provided in [AS 31.05.040--31.05.060](#). Additional notice shall be given as the commission requires.

(f) From the effective date of an order of the commission creating a unit and prescribing the plan of unitization applicable to it, the operation of a well producing from the pool or portion of it within the unit area defined in the order by persons other than the unit or persons acting under its authority or except in the manner and to the extent provided in the plan of unitization is unlawful and is prohibited.

(g) The obligation or liability of the lessees or other owners of the oil and gas rights in the several separately owned tracts for the payment of unit expense shall at all times be several and not joint or collective and in no event shall a lessee or other owner of the oil and gas rights in the separately owned tract be chargeable with, obligated or liable, directly or indirectly, for more than the amount apportioned, assessed, or otherwise charged to that lessee's or owner's interest in the separately owned tract under the plan of unitization and then only to the extent of the lien provided for in this chapter.

(h) Subject to such reasonable limitations as may be set out in the plan of unitization, the unit has a first and prior lien upon the leasehold estate and all other oil and gas rights (exclusive of a landowners' royalty interest) in and to each separately owned tract, the interest of the owners in and to the unit production and all equipment in the possession of the unit, to secure the payment of the amount of the unit expense charged to and assessed against such separately owned tract. The interest of the lessee or other persons who by lease, contract, or otherwise are obligated or responsible for the cost and expense of developing and operating a separately owned tract for oil and gas in the absence of unitization shall, however, be primarily responsible for and charged with any assessment for unit expense made against the tract and resort may be had to overriding royalties, oil and gas payments, or other interests, except royalty interests, which otherwise are not chargeable with these costs, only in the event the owner of interest primarily responsible fails to pay the assessment of the production to the credit thereof, or production is insufficient for that purpose. If the owner of any royalty interest, overriding royalty, oil or gas payment, or any other interest which under the plan of unitization is not primarily responsible for it pays in whole or in part the amount of an assessment for unit expense for the purpose of protecting such interest, or the amount of the assessment in whole or in part is deducted from the unit production to the credit of such interest, the owner of it is to the extent of the payment or deduction subrogated to all the rights of the unit with respect to the interest or interests primarily responsible for the assessment. The landowners' royalty share of the unit production allocated to each separately owned tract shall be regarded as royalty to be distributed to and among, or the proceeds of it paid to, the landowners, free and clear of all unit expense and free of any lien for it.

(i) Property rights, leases, contracts, and all other rights and obligations shall be regarded as amended and modified to the extent necessary to conform to the provisions and requirements of this chapter, and to any valid and applicable plan of unitization or order of the commission made and adopted under this chapter, but otherwise remain in effect.

(j) Nothing contained in this chapter shall be construed to require a transfer to or vesting in the unit of title to the separately owned tracts or leases on them within the unit area, other than the right to use and operate them to the extent set out in the plan of unitization; nor shall the unit be regarded as owning the unit production. The unit production and the proceeds from the sale of it shall be owned by the several persons to whom it is allocated under the plan of unitization. All property, whether real or personal, which the unit may in any way acquire, hold, or possess, may not be acquired, held, or possessed by the unit for its own account but shall be acquired, held, and possessed by the unit for the account and as agent of the several lessees and shall be the property of the lessees as their interests appear under the plan of unitization, subject, however, to the right of the unit to

the possession, management, use, or disposal of the same in the proper conduct of its affairs, and subject to any lien the unit may have on it to secure the payment of unit expense. Neither the unit production or proceeds of the sale of it, nor the other receipts shall be treated, regarded, or taxed as income or profits of the unit; but instead, all such receipts shall be the income of the several persons to whom or to whose credit the same are payable under the plan of unitization. To the extent the unit may receive or disburse the receipts it shall only do so as a common administrative agent of the persons to whom the receipts are payable.

(k) The amount of the unit production allocated to each separately owned tract within the unit, and only that amount, regardless of the well or wells in the unit area from which it may be produced and regardless of whether it is more or less than the amount of the production from the well or wells, if any, on any such separately owned tract, shall for all intents, uses and purposes be regarded and considered as production from the separately owned tract, and, except as may be otherwise authorized in this chapter, or in the plan of unitization approved by the commission, shall be distributed among or the proceeds of it paid to the persons entitled to share in the production from the separately owned tract in the same manner, in the same proportions, and upon the same condition that they would have participated and shared in the production or proceeds of it from such separately owned tract had not the unit been organized, and with the same legal effect. If adequate provisions are made for the receipt of it, the share of the unit production allocated to each separately owned tract shall be delivered in kind to the persons entitled to it by virtue of ownership of oil and gas rights in it or by purchase from the owners subject to the rights of the unit to withhold and sell the same in payment of unit expense under the plan of unitization, and subject further to the call of the unit on such portions of the gas for operating purposes as may be provided in the plan of unitization.

(l) An agreement or plan for the development and operation of a field or pool of oil or gas as a unit, if approved by the commission for the purpose of conserving oil or gas, does not violate a statute of the state prohibiting monopolies or acts, arrangements, agreements, contracts, combinations, or conspiracies in restraint of trade or commerce.

(m) Operations carried on under and in accordance with the plan of unitization shall be regarded and considered as a fulfillment of a compliance with all of the provisions, covenants and conditions, express or implied, of the several oil and gas leases upon lands included within the unit area, or other contracts pertaining to the development of it insofar as the leases or other contracts may relate to the pool or portion of it included in the unit area. Wells drilled or operated on any part of the unit area no matter where located shall for all purposes be regarded as wells drilled on each separately owned tract within the unit area.

(n) Nothing in this section or in any plan of unitization shall be construed as increasing or decreasing the implied covenants of a lease in respect to a common source of supply or lands not included within the unit area of a unit.

(o) The unit area of a unit may be enlarged to include adjoining portions of the same pool, including the unit area of another unit, and a new unit created for the unitized management, operation and further development of the enlarged unit area, or the plan of unitization may be otherwise amended, or the unit area contracted, all in the same manner, upon the same conditions and subject to the same limitations as provided with respect to the creation of a unit in the first instance.

(p) An aliquot of unit production may be underlifted or overlifted from a unit established under this chapter or [AS 38.05.180\(p\)](#) only when it does not create waste, except the commissioner may permit underlifting or overlifting for temporary periods for the purpose of accommodating extraordinary disruptions to an interest owner's production disposal system. Underlifted oil may be recovered by an interest owner at a daily rate not to exceed 10 percent of the owner's working or royalty interest share of daily production at the time of underlift recovery. This subsection applies to all units created after June 30, 1978.

(q) This section applies to all involuntary units formed in the state. Subsections (a) and (g)--(p) of this section apply to all voluntary units formed in the state and to a voluntary cooperative or unit plan of development or operation entered into in accordance with [AS 38.05.180\(p\)](#).

**Credits**

SLA 1955, ch. 40, § 7; SLA 1978, ch. 160, §§ 8--13, 17; SLA 1980, ch. 94, § 33.

AS § 31.05.110, AK ST § 31.05.110

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 2. Regulation of Operations

AS § 31.05.120

§ 31.05.120. Use of gas from well to manufacture carbon products without permit is prima facie waste

Currentness

The use of gas from a well producing gas only, or from a well which is primarily a gas well for the manufacture of carbon black or similar products predominantly carbon is declared to constitute waste prima facie, and the gas well may not be used for this purpose unless it is clearly shown at a public hearing held by the commission, on application of the person desiring to use the gas, that waste would not take place by the use of the gas for the purpose applied for, and that gas which would otherwise be lost is now available for such purpose, and that the gas to be used cannot be used for a more beneficial purpose, such as for light or fuel purposes, except at prohibitive cost, and that it would be in the public interest to grant the permit. If the commission finds that the applicant has clearly shown a right to use the gas for the purpose applied for, it shall issue a permit upon terms and conditions it finds necessary in order to permit the use of the gas and at the same time require compliance with the intent of this section.

**Credits**

SLA 1955, ch. 40, § 8.

AS § 31.05.120, AK ST § 31.05.120

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 3. General Provisions

AS § 31.05.125

§ 31.05.125. Repealed by SLA 2004, ch. 49, § 58, eff. June 5, 2004

Currentness

AS § 31.05.125, AK ST § 31.05.125

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 3. General Provisions

AS § 31.05.130

§§ 31.05.130 to 31.05.140. Repealed

Currentness

AS § 31.05.130, AK ST § 31.05.130

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 3. General Provisions

AS § 31.05.140

§§ 31.05.130 to 31.05.140. Repealed

Currentness

AS § 31.05.140, AK ST § 31.05.140

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 3. General Provisions

AS § 31.05.150

§ 31.05.150. Penalties

Currentness

(a) In addition to the penalties in (b)--(e) of this section, a person who violates a provision of this chapter, a regulation adopted under this chapter, or an order, stipulation, or term of a permit issued by the commission is liable for a civil penalty of not more than \$100,000 for the initial violation and not more than \$10,000 for each day thereafter on which the violation continues.

(b) A person who knowingly commits an act specified in [AS 11.46.630\(a\)](#) for the purpose of evading a provision of this chapter, a regulation adopted under this chapter, or an order, stipulation, or term of a permit issued by the commission is guilty of a class A misdemeanor.

(c) A person who knowingly aids or abets another person in the violation of a provision of this chapter, a regulation adopted under this chapter, or an order, stipulation, or term of a permit issued by the commission is subject to the same penalty as that prescribed in this chapter for the violation by the other person.

(d) In addition to the penalties in (a)--(c) and (e) of this section, the commission may impose a civil penalty for each 1,000 cubic feet of natural gas flared, vented, or otherwise determined to be waste as defined in [AS 31.05.170](#). The penalty shall be twice the fair market value of the natural gas at the point of waste.

(e) A person who knowingly violates a provision of this chapter, a regulation adopted under this chapter, or an order, stipulation, or term of a permit issued by the commission is guilty of a misdemeanor punishable by a fine of not more than \$10,000 a day for each day of violation.

(f) The commission may assess the civil penalties provided in this section, and, if not paid, the penalties are recoverable by suit filed by the attorney general in the name and on behalf of the commission in the superior court. The payment of a penalty does not relieve a person on whom the penalty is imposed from liability to any other person for damages arising out of the violation.

(g) In determining the amount of a penalty assessed under (a) of this section, the commission shall consider

- (1) the extent to which the person committing the violation was acting in good faith in attempting to comply;
- (2) the extent to which the person committing the violation acted in a wilful or knowing manner;

- (3) the extent and seriousness of the violation and the actual or potential threat to public health or the environment;
- (4) the injury to the public resulting from the violation;
- (5) the benefits derived by the person committing the violation from the violation;
- (6) the history of compliance or noncompliance by the person committing the violation with the provisions of this chapter, the regulations adopted under this chapter, and the orders, stipulations, or terms of permits issued by the commission;
- (7) the need to deter similar behavior by the person committing the violation and others similarly situated at the time of the violation or in the future;
- (8) the effort made by the person committing the violation to correct the violation and prevent future violations; and
- (9) other factors considered relevant to the assessment that are adopted by the commission in regulation.

**Credits**

SLA 1955, ch. 40, § 12; SLA 1968, ch. 195, § 1; [SLA 1990, ch. 86, §§ 2--4](#). Amended by [SLA 2007, ch. 54, § 14, eff. July 13, 2007](#).

AS § 31.05.150, AK ST § 31.05.150

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 3. General Provisions

AS § 31.05.160

§ 31.05.160. Injunctive relief

Currentness

(a) Whenever it appears that a person is violating or threatening to violate any provision of this chapter, or any regulation or order of the commission, the commission shall bring suit against that person in the superior court of the judicial district where the violation occurs or is threatened, to restrain the person from continuing the violation or from carrying out the threat of violation. In the suit, the court shall have jurisdiction to grant to the commission, without bond or otherwise undertaking, such prohibitory and mandatory injunctions as the facts warrant.

(b) If the commission fails to bring suit to enjoin a violation or threatened violation within 10 days after receipt of written request to do so by a person who is or will be adversely affected by the violation, the person making the request may bring suit to restrain the violation or threatened violation in the court in which the commission may bring suit. If the court finds that injunctive relief should be granted, the commission shall be made a party and shall be substituted for the person who brought the suit, and the injunction shall be issued as if the commission had at all times been the plaintiff.

**Credits**

SLA 1955, ch. 40, § 13.

AS § 31.05.160, AK ST § 31.05.160

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

West's Alaska Statutes Annotated  
Title 31. Oil and Gas  
Chapter 05. Alaska Oil and Gas Conservation Act  
Article 3. General Provisions

AS § 31.05.170

§ 31.05.170. Definitions

Currentness

In this chapter, unless the context otherwise requires

- (1) “and” includes “or” and “or” includes “and”;
- (2) “commission” means the Alaska Oil and Gas Conservation Commission;
- (3) “correlative rights” mean the opportunity afforded, so far as it is practicable to do so, to the owner of each property in a pool to produce without waste the owner's just and equitable share of the oil or gas, or both, in the pool; being an amount, so far as can be practically determined, and so far as can practically be obtained without waste, substantially in the proportion that the quantity of recoverable oil or gas, or both under the property bears to the total recoverable oil or gas or both in the pool, and for such purposes to use the owner's just and equitable share of the reservoir energy;
- (4) “cubic foot” of natural gas means the volume of gas contained in one cubic foot of space measured at a pressure base of 14.65 pounds per square inch absolute and a temperature base of 60 degrees Fahrenheit;
- (5) “field” means a general area which is underlain or appears to be underlain by at least one pool, and includes the underground reservoir containing oil or gas; and the words “pool” and “field” mean the same thing when only one underground reservoir is involved, but “field” unlike “pool” may relate to two or more pools;
- (6) “gas” includes all natural gas and all hydrocarbons produced at the wellhead not defined as oil;
- (7) “landowner” means the owner of the subsurface estate of the tract affected;
- (8) “nonconventional gas” has the meaning given in [AS 38.05.965](#);
- (9) “oil” includes crude petroleum oil and other hydrocarbons regardless of gravity which are produced at the wellhead in liquid form and the liquid hydrocarbons known as distillate or condensate recovered or extracted from gas, other than gas produced in association with oil and commonly known as casinghead gas;

(10) “owner” means the person who has the right to drill into and produce from a pool and to appropriate the oil and gas the person produces from a pool for that person and others;

(11) “person” includes a natural person, corporation, association, partnership, receiver, trustee, executor, administrator, guardian, fiduciary or other representative of any kind, and includes a department, agency or instrumentality of the state or a governmental subdivision of the state;

(12) “pool” means an underground reservoir containing, or appearing to contain, a common accumulation of oil or gas; each zone of a general structure which is completely separated from any other zone in the structure is covered by the term “pool”;

(13) “producer” means the owner of a well or wells capable of producing oil or gas or both;

(14) “regular production” means continuing production of oil or gas from a well into production facilities and transportation to market, but does not include short term testing, evaluation, or experimental pilot production activities that have been approved by permit or order of the commission;

(15) “waste” means, in addition to its ordinary meaning, “physical waste” and includes

(A) the inefficient, excessive, or improper use of, or unnecessary dissipation of, reservoir energy; and the locating, spacing, drilling, equipping, operating or producing of any oil or gas well in a manner which results or tends to result in reducing the quantity of oil or gas to be recovered from a pool in this state under operations conducted in accordance with good oil field engineering practices;

(B) the inefficient above-ground storage of oil; and the locating, spacing, drilling, equipping, operating, or producing of an oil or gas well in a manner causing, or tending to cause, unnecessary or excessive surface loss or destruction of oil or gas;

(C) producing oil or gas in a manner causing unnecessary water channeling or coning;

(D) the operation of an oil well with an inefficient gas-oil ratio;

(E) the drowning with water of a pool or part of a pool capable of producing oil or gas, except insofar as and to the extent authorized by the commission;

(F) underground waste;

(G) the creation of unnecessary fire hazards;

(H) the release, burning, or escape into the open air of gas, from a well producing oil or gas, except to the extent authorized by the commission;

(I) the use of gas for the manufacture of carbon black, except as provided in this chapter;

(J) the drilling of wells unnecessary to carry out the purpose or intent of this chapter.

**Credits**

SLA 1955, ch. 40, § 2; SLA 1968, ch. 195, §§ 2, 3; SLA 1978, ch. 160, §§ 14, 15; SLA 1984, ch. 91, § 3; [SLA 2003, ch. 45, § 5](#); [SLA 2004, ch. 49, §§ 6, 58](#).

AS § 31.05.170, AK ST § 31.05.170

Current with amendments received through chapter 25 of the 2025 First Regular Session and Ch. 1 of the First Special Session of the 34th Legislature. Some sections may be more current than others.

---

End of Document

© 2026 Thomson Reuters. No claim to original U.S. Government Works.

DRAFT

### 3. Alaska Administrative Code:

- 20 AAC 25.442; 20 AAC 25.444, and 20 AAC 25.990 (79) – (83); and
- 20 AAC 25.1000 – 1900, Article 9, “Carbon Storage”

Nancy Dahlstrom  
Lieutenant Governor  
State Capitol  
Juneau, Alaska 99811  
907.465.3520  
WWW.LTGOV.ALASKA.GOV




530 West 7<sup>th</sup> Ave, Suite 1700  
Anchorage, Alaska 99501  
907.269.7460  
LT.GOVERNOR@ALASKA.GOV

**OFFICE OF THE LIEUTENANT GOVERNOR  
ALASKA**

**M E M O R A N D U M**

**TO:** Samantha Coldiron, AOGCC Special Assistant  
Alaska Oil and Gas Conservation Commission

**FROM:** April Simpson, Alaska Administrative Code Coordinator   
Office of the Lieutenant Governor

**DATE:** March 19, 2026

**RE:** Filed Permanent Regulations: Alaska Oil and Gas Conservation Commission  
  
Alaska Oil and Gas Conservation Commission regulations re: CCUS Carbon Storage &  
Class VI Wells (20 AAC 25)

---

Attorney General File:	2025200100
Regulation Filed:	3/19/2026
Effective Date:	4/18/2026
Print:	258, July 2026

cc with enclosures: ToniMarie Gonzales, Paralegal  
Department of Law

Lisa Gorman, Alaska Legal Analyst  
LexisNexis



THE STATE  
of ALASKA  
GOVERNOR MIKE DUNLEAVY

Department of Law

CIVIL DIVISION

P.O. Box 110300  
Juneau, Alaska 99811  
Main: 907.465.3600  
Fax: 907.465.2520

March 19, 2026

The Honorable Nancy Dahlstrom  
Lieutenant Governor  
State of Alaska  
P.O. Box 110015  
Juneau, AK 99811-0015

Re: 20 AAC 25: AOGCC - CCUS Carbon Storage & Class VI Wells  
Our file: 2025200100

Dear Lieutenant Governor Dahlstrom:

The Department of Law has reviewed the attached regulations of the Alaska Oil and Gas Conservation Commission against the statutory standards of the Administrative Procedure Act. Based upon our review, we find no legal problems. This letter constitutes the written statement of approval under AS 44.62.060(b) and (c) that authorizes your office to file the attached regulations. The regulations were adopted by the Alaska Oil and Gas Conservation Commission after the close of the public comment period.

The regulations implement AS 41.06.105 – AS 41.06.210, the Carbon Capture, Utilization, and Storage Act, relating to Class VI wells for the injection of carbon for purposes of underground storage as a new well Class within the Underground Injection Control (UIC) program. Adoption of these regulations is necessary to apply for Class VI primary enforcement authority from the United States Environmental Protection Agency (EPA).

The November 30, 2025 public notice and the March 3, 2026 certification of adoption order both state that this action is not expected to require an increased appropriation. Therefore, a fiscal note under AS 44.62.060 is not required.

We have made some technical corrections to conform the regulations in accordance with AS 44.62.060. The corrections are incorporated into the attached copy of the regulations.

To: Hon. Nancy Dahlstrom, Lieutenant Governor  
Our file: 2025200100; 20 AAC 25

March 19, 2026  
Page 2 of 2

Sincerely,

STEPHEN J. COX  
ATTORNEY GENERAL

By: **Rebecca C. Polizzotto**  
Rebecca C. Polizzotto  
Chief Assistant Attorney General  
Legislation, Regulations, and  
Legislative Research Section

Digitally signed by  
Rebecca C. Polizzotto  
Date: 2026.03.19  
12:16:08 -08'00'

PWP/pwp/tmg

CC w/enclosure: Hon. Julie Sande, Commissioner  
Department of Commerce, Community and Economic Development

Samantha Coldiron, Special Assistant  
Alaska Oil and Gas Conservation Commission

Parker W. Patterson, Senior Assistant Attorney General  
Department of Law

**Appendix J: Certification Order**

**ORDER CERTIFYING THE CHANGES TO  
REGULATIONS OF ALASKA OIL AND GAS CONSERVATION COMMISSION**

The attached regulations, dealing with CCUS Carbon Storage & Class VI Wells, [is] [are] certified to be a correct copy of the regulation changes that the Alaska Oil and Gas Conservation Commission adopted at its March 3, 2026 meeting, under the authority of AS 31.05 and after compliance with the Administrative Procedure Act (AS 44.62), specifically including notice under AS 44.62.190 and 44.62.200 and opportunity for public comment under AS 44.62.210.

This action is not expected to require an increased appropriation.

On the record, in considering public comments, the Alaska Oil and Gas Conservation Commission paid special attention to the cost to private persons of the regulatory action being taken.

The regulation changes described in this order take effect on the 30th day after they have been filed by the lieutenant governor, as provided in AS 44.62.180.

Date: March 3, 2026

**Samantha  
Coldiron**

Digitally signed by Samantha  
Coldiron  
Date: 2026.03.03 13:03:56 -09'00'

Samantha Coldiron, AOGCC Special Assistant

*April Simpson for*  
↓

**FILING CERTIFICATION**

I, Nancy Dahlstrom, Lieutenant Governor for the State of Alaska, certify that on

March 19, 2026 at 3:05 p.m., I filed the attached regulations according to the provisions of AS 44.62.040 - 44.62.120.

*for*   
\_\_\_\_\_  
Lieutenant Governor *Nancy Dahlstrom*

Effective: April 18, 2026

Register: 258, July 2026

**FOR DELEGATION OF THE LIEUTENANT GOVERNOR'S AUTHORITY**

**I, NANCY DAHLSTROM, LIEUTENANT GOVERNOR OF THE STATE OF ALASKA, designate the following state employees to perform the Administrative Procedures Act filing functions of the Office of the Lieutenant Governor:**

**April Simpson, Regulations and Initiatives Specialist**

**IN TESTIMONY WHEREOF, I have signed and affixed the Seal of the State of Alaska, in Juneau, on May 15th, 2023.**



A handwritten signature in blue ink, appearing to read "Nancy Dahlstrom", is written over a horizontal dotted line.

**NANCY DAHLSTROM  
LIEUTENANT GOVERNOR**

20 AAC 25.402 is amended to read:

**20 AAC 25.402. Enhanced recovery operations.** (a) **An enhanced** [ENHANCED] recovery **operation** [OPERATIONS] involving the introduction of **an** extraneous **form** [FORMS] of energy into a pool by injection **is** [ARE] prohibited, except as ordered by the commission under this section. In response to an application for injection filed by an operator, and upon the commission's determination that the requirements of this section and 20 AAC 25.412 are met, the commission will issue an order authorizing the injection of **fluid** [FLUIDS] that **functions** [FUNCTION] primarily to enhance recovery of oil and gas and **is** [THAT ARE] appropriate for enhanced recovery **through a Class II well**. Except as provided in (i) of this section, an order authorizing injection for an enhanced recovery project remains valid unless revoked by the commission.

(b) The operator has the burden of demonstrating that the proposed operation will not allow the movement of fluid into **a source** [SOURCES] of freshwater. **A Class II well for enhanced oil recovery or enhanced gas recovery** [INJECTION WELLS] must be cased, the casing cemented, and the **well** [WELLS] operated in a manner that will isolate the injection zone and protect oil, gas, and freshwater. If **a well** [WELLS], including **a** freshwater **well, or** [WELLS and] other **boring** [borings, are] located within a one-quarter mile radius of **a Class II** [AN] injection well, **is** [ARE] a possible means for **fluid** [FLUIDS] to move into sources of freshwater and [ARE] under the control of

(1) the operator, the operator shall ensure that the **well or boring is** [wells are] properly repaired, plugged, or otherwise modified to prevent the movement of **fluid** [FLUIDS] into sources of freshwater; or

(2) a person other than the operator, the commission will not issue an order under (a) of this section until the operator presents evidence to the commission's satisfaction that the person who controls the **well or boring** [WELLS] has properly repaired, plugged, or otherwise modified the **well or boring** [WELLS] to prevent the movement of **fluid** [FLUIDS] into sources of freshwater.

(c) An application for injection must include

(1) a plat showing the location of each proposed **Class II** [INJECTION] well, abandoned or other unused well, production well, dry hole, and other well within one-quarter mile of each proposed **Class II** [INJECTION] well;

(2) a list of all operators and surface owners within a one-quarter mile radius of each proposed injection well;

(3) an affidavit showing that the operators and surface owners within a one-quarter mile radius have been provided a copy of the application for injection;

(4) a full description of the particular operation for which approval is requested;

(5) the names, descriptions, and depths of the pools to be affected;

(6) the name, description, depth, and thickness of the formation into which **fluid** **is** [FLUIDS ARE] to be injected, and appropriate geological data on the injection zone and confining zone, including lithologic descriptions and geologic names;

(7) logs of the injection wells if not already on file with the commission;

(8) a description of the proposed method for demonstrating mechanical integrity of the casing and tubing under 20 AAC 25.412 and for demonstrating that no **fluid** [FLUIDS] will move behind casing beyond the approved injection zone, and a description of

(A) the casing of **an existing Class II well** [THE INJECTION WELLS IF

THE WELLS ARE EXISTING]; or

(B) the proposed casing program of a new Class II well [, IF THE INJECTION WELLS ARE NEW];

(9) a statement of the type of fluid to be injected, the fluid's composition, the fluid's source, the estimated maximum amounts to be injected daily, and the fluid's compatibility with the injection zone;

(10) the estimated average and maximum injection pressure;

(11) evidence to support a commission finding that each proposed Class II [INJECTION] well will not initiate or propagate fractures through the confining zones that might enable the injection fluid or formation fluid to enter freshwater strata;

(12) a standard laboratory water analysis, or the results of another method acceptable to the commission, to determine the quality of the water within the formation into which fluid injection is proposed;

(13) a reference to any applicable freshwater exemption issued under 20 AAC 25.440;

(14) the expected incremental increase in ultimate hydrocarbon recovery; and

(15) a report on the mechanical condition of each well that has penetrated the injection zone within a one-quarter mile radius of a proposed injection well.

(d) The commission will publish notice of the enhanced recovery application and provide the opportunity for a hearing in accordance with 20 AAC 25.540.

(e) The mechanical integrity of a Class II [AN INJECTION] well must be demonstrated under 20 AAC 25.412 before injection is begun and after a well workover affecting mechanical integrity is conducted. To confirm continued mechanical integrity, the operator shall monitor the

injection pressure and rate and the pressure in the casing-tubing annulus during actual injection. The monitored data **shall** [MUST] be reported monthly on the Monthly Injection Report (Form 10-406).

(f) If an injection rate, operating pressure observation, or pressure test indicates pressure communication or leakage in any casing, tubing, or packer, the operator shall notify the commission by the next working day and shall implement corrective action or increased surveillance as the commission requires to ensure protection of freshwater.

(g) The commission will require additional mechanical integrity tests, if the commission considers them prudent for conservation purposes or protection of freshwater.

(h) The commission may approve a modification to an existing or pending injection operation under 20 AAC 25.507, if the **operator** [APPLICANT] proves to the commission, **on** [UPON] application containing sufficient detail for the commission to evaluate the proposed modification, that the modification will not allow the movement of **fluid** [FLUIDS] into sources of freshwater.

(i) If **an** injection **operation is** [OPERATIONS ARE] not begun within 24 months after the date of the order authorizing enhanced recovery, that order expires unless a letter of application for extension is approved by the commission. (Eff. 4/2/86, Register 97; am 11/7/99, Register 152; am 4 / 18 / 2026, Register 258)

**Authority:** AS 31.05.030

20 AAC 25 is amended by adding a new section to read:

**20 AAC 25.435. Identification of underground sources of drinking water.** The commission may identify, by narrative description, illustration, maps, or other means, and shall

protect as an underground source of drinking water, all aquifers and parts of aquifers which meet the definition of underground sources of drinking water under 20 AAC 25.990, except to the extent there is an applicable freshwater aquifer exemption under 20 AAC 25.440, 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 carbon storage under 20 AAC 25.442. Other than an approved aquifer exemption expansion that meets the criteria under 20 AAC 25.442(d), new aquifer exemptions will not be issued for a Class VI well; a Class VI well has the meaning in 20 AAC 25.1900. Even if an aquifer has not been specifically identified by the commission, it is an "underground source of drinking water" if it meets the definition of "underground source of drinking water" in 20 AAC 25.990. (Eff.

4 / 18 / 2026, Register 258)

**Authority:** AS 31.05.030 AS 41.06.150 AS 41.06.185

20 AAC 25 is amended by adding a new section to read:

**20 AAC 25.442. Expansion to the areal extent of existing Class II aquifer exemptions for Class VI wells.** (a) An owner or operator of Class II enhanced oil recovery or enhanced gas recovery well under 20 AAC 25.402 may request that the commission approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil or enhanced gas recovery well under 20 AAC 25.440 for the exclusive purpose of Class VI well injection for carbon storage under 20 AAC 25.1000 - 20 AAC 25.1900. A request under this section will be treated as a substantial revision to an approved state underground injection control program under 40 C.F.R. 145.32, and will not be final until approved by the United States Environmental Protection Agency.

(b) 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 carbon storage shall define by narrative description, illustrations, maps, or other means, and describe in geographic or geometric terms such as vertical and lateral limits and gradients that are clear and definite, each aquifer or part thereof that the operator requests be designated as exempted using the criteria in (d) of this section.

(c) In evaluating a request to expand the areal extent of an existing aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of Class VI injection, the commission will determine whether the request meets the criteria for exemption in this section. In making the determination, the commission will consider, in addition to the criteria in (d) of this section,

(1) current and potential future use of the underground sources of drinking water to be exempted as a drinking water resource;

(2) 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 storage facility, as informed by computational modeling performed pursuant to 20 AAC 25.1070(c)(1) in order to ensure that the proposed injection operation will not at any time endanger underground sources of drinking water including non-exempted portions of the injection formation;

(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, under 20 AAC 25.1070(e); and

(4) any information submitted to support a waiver request made by the storage operator under 20 AAC 25.1270, if appropriate.

(d) The areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery may be expanded for the exclusive purpose of Class VI injection for carbon storage under (c) of this section if it meets the following criteria:

(1) it does not currently serve as a source of drinking water; and

(2) the total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and

(3) it is not reasonably expected to supply a public water system.

(Eff. 4 / 18 / 2026, Register 258)

Authority: AS 31.05.030 AS 41.06.150 AS 41.06.185  
AS 41.06.105

20 AAC 25 is amended by adding a new section to read:

**20 AAC 25.444. Transitioning from a Class II well to a Class VI well.** (a) An owner or operator that is injecting carbon dioxide shall apply for and obtain a storage facility permit under 20 AAC 25.1000 - 20 AAC 25.1900 when the primary purpose of injection is long-term carbon storage or there is an increased risk to underground sources of drinking water when compared to Class II operations. In determining whether there is a primary purpose of long-term carbon storage or an increased risk to underground sources of drinking water, the owner or operator shall consider the factors in (b) of this section.

(b) In addition to (a) of this section, the commission shall determine when the primary purpose of injection is long-term carbon storage or there is an increased risk to underground sources of drinking water compared to Class II operations, and a storage facility permit is required. In order to make this determination, the commission must consider the following:

- (1) increase in reservoir pressure within the injection zone;
- (2) increase in carbon dioxide injection rates;
- (3) decrease in reservoir production rates;
- (4) distance between the injection zone and underground sources of drinking water;
- (5) suitability of the Class II area of review delineation;
- (6) quality of abandoned well plugs within the area of review;
- (7) the owner's or operator's plan for recovery of the carbon dioxide at the cessation of injection;
- (8) the source and properties of the injected carbon dioxide;
- (9) any additional site-specific factors determined by the commission.

(Eff. 4 / 18 / 2026 , Register 258)

**Authority:** AS 31.05.030      AS 41.06.150      AS 41.06.185

20 AAC 25.505 is amended to read:

**20 AAC 25.505. Scope of regulations.** (a) 20 AAC 25.005 - 20 AAC 25.990 [THIS CHAPTER] generally consists of statewide regulations which apply to all wells, pools, fields, and oil and gas properties, unless the commission [, IN ITS DISCRETION,] issues an order in conformance with 20 AAC 25.540.

(b) An order issued in conformance with 20 AAC 25.540 prevails over 20 AAC 25.005 - 20 AAC 25.990 [THIS CHAPTER] except for those regulations which govern underground injection and the protection of freshwater. (Eff. 4/13/80, Register 74; am 4/2/86, Register 97; am

4 / 18 / 2026 , Register 258)

Authority: AS 31.05.030 AS 31.05.100 AS 41.06.120  
AS 31.05.060 AS 41.06.110

20 AAC 25.535(a) is amended to read:

**20 AAC 25.535. Enforcement.** (a) If the commission, as the result of an investigation or otherwise, considers that a person may have violated or failed to comply with a provision of AS 31.05, AS 41.06.105 - 41.06.210, this chapter, or a commission order, permit, or other approval, the commission will, in its discretion, take enforcement action under this section against the person.

20 AAC 25.535(e) is amended to read:

(e) If a person concurs in a proposed action under (c) of this section, or after an informal review or a hearing under (c) or (d) of this section, and if the commission finds that a person has violated or failed to comply with a provision of AS 31.05 or AS 41.06.105 - 41.06.210, this chapter, or a commission order, permit, or other approval, the commission may [WILL, IN ITS DISCRETION,] order one or more of the following, as it determines to be applicable:

- (1) corrective action or remedial work;
- (2) revocation or suspension of a permit or other approval;
- (3) payment under the bond required by 20 AAC 25.025 or 20 AAC 25.1200;
- (4) imposition of penalties under AS 31.05.150 or AS 41.06.180.

20 AAC 25.535(h) is amended to read:

(h) If an apparent violation or noncompliance described in a notification under (b)(1) of

this section relates to the underground disposal of an oil field waste [wastes] or the underground storage of a liquid hydrocarbon [HYDROCARBONS] requiring commission authorization under 20 AAC 25.252 or relates to the injection of fluid [FLUIDS] requiring commission authorization under 20 AAC 25.402 or 20 AAC 25.460, or relates to carbon storage under 20 AAC 25.1000 - 20 AAC 25.1900, a person with an interest that is or may be adversely affected may intervene in proceedings under this section. (Eff. 11/7/99, Register 152; am

4 / 18 / 2026 , Reg. 258 )

<b>Authority:</b>	AS 31.05.030	AS 31.05.60	AS 31.06.110
	AS 31.05.040	AS 31.05.095	AS 31.06.180
	AS 31.05.050	AS 31.05.150	

20 AAC 25.556 is amended to add a new subsection to read:

**(e) An order under 20 AAC 25.1040 establishing a preapplication fee will not have an expiration date unless explicitly ordered by the commission.** (Eff. 11/7/99, Register 152; am 2/10/2018, Register 225; am 4 / 18 / 2026 , Register 258 )

<b>Authority:</b>	AS 31.05.011	AS 31.05.040	<b><u>AS 41.06.120</u></b>
	AS 31.05.030		

The introductory language to 20 AAC 25.990 is amended to read:

**20 AAC 25.990. Definitions. In 20 AAC 25.005 - 20 AAC 25.990, [IN THIS CHAPTER,] unless the context requires otherwise, (((20 AAC 25.990(1) - (78) remain unchanged)))**

20 AAC 25.990 is amended by adding new paragraphs to read:

(79) "aquifer" means a geologic formation or group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring;

(80) "Class II well" has the meaning given in 20 AAC 25.252;

(81) "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 20 AAC 25.440;

(82) "ground water" means water below the land surface in a zone of saturation;

(83) "underground source of drinking water" or "USDW" means an aquifer or its portion

(A) that supplies any public water system, or

(B) which contains a sufficient amount 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 milligrams per liter total dissolved

solids; and

(C) is not an exempted aquifer under 20 AAC 25.440. (Eff. 11/7/99, Register 152; am 1/5/2006, Register 177; am 9/30/2010, Register 195; am 11/3/2013, Register 208; am 1/7/2015, Register 213; am 7/28/2022, Register 243;

am 4 / 18 / 2026, Register 258 )

Authority: AS 31.05.030 [AS 41.06.035]AS 41.06.040 [AS 41.06.040] AS 41.06.110

AS 41.06.035

20 AAC 25 is amended by adding new sections to read:

**Article**

1. Drilling (20 AAC 25.005 - 20 AAC 25.080)
2. Abandonment and Plugging (20 AAC 25.105 - 20 AAC 25.172)
3. Production Practices (20 AAC 25.200 - 20 AAC 25.290)
4. Reports (20 AAC 25.300 - 20 AAC 310)
5. Enhanced Recovery (20 AAC 25.402 - 20 AAC 25.460)
6. General Provisions (20 AAC 25.505 - 20 AAC 25.630)
7. Geothermal Resources (20 AAC 25.705 - 20 AAC 740)
8. Definitions (20 AAC 25.990)
- 9. Carbon Storage (20 AAC 25.1000 - 20 AAC 25.1900)**

**Article 9. Carbon Storage**

**Section**

1000. Authority of commission; scope of regulations
1010. Prohibition of movement of fluid into underground sources of drinking water; emergency actions
1020. Prohibition on operation without a permit; prohibition of non-experimental Class V wells; non-applicability to hazardous waste; prohibition on area permits
1025. Conversion to carbon storage
1030. Storage facility permit required for carbon storage; format; signatures
1040. Preapplication meeting; time to apply for storage facility permit; determination of application fee

- 1050. Storage facility permit application; general requirements
- 1060. Minimum criteria for siting
- 1070. Area of review; corrective action
- 1080. Storage facility permit; required Class VI well permit information
- 1085. Amalgamating property interests; hearing
- 1100. Draft permit; fact sheet
- 1120. Conditions applicable to all permits
- 1130. Establishing storage facility permit conditions; Class VI well permit conditions
- 1140. Schedule of compliance
- 1150. Public hearing; notice; public comment
- 1160. Duration; storage facility permit
- 1170. Certificate; storage facility permit
- 1180. Class VI well permit; authorization to inject
- 1200. Financial responsibility
- 1210. Class VI well construction requirements
- 1220. Logging, sampling, and testing before injection well operation
- 1230. Class VI well operating requirements
- 1240. Mechanical integrity
- 1250. Testing and monitoring requirements; records of monitoring
- 1260. Emergency and remedial response
- 1270. Injection depth waiver requirements
- 1280. Determining storage reservoir capacity
- 1290. Fees; application.

- 1295. Injection surcharge; determination; notice
- 1300. Class VI well plugging
- 1310. Post-injection site care; site closure; monitoring
- 1320. Certificate of completion; public process
- 1400. Transfer; storage facility permit
- 1410. Modification, revocation and reissuance of storage facility permit
- 1420. Termination of storage facility permit
- 1430. Minor modification; storage facility permit
- 1600. Confidentiality of information
- 1610. Reporting requirements; monitoring and records
- 1650. Enforcement; penalties
- 1900. Definitions

**20 AAC 25.1000. Authority of commission; scope of regulations.** 20 AAC 25.1000 – 20 AAC 25.1900 implement AS 41.06.105 - 41.06.210, the Carbon Capture, Utilization, and Storage Act as it relates to Class VI wells. Unless otherwise specified in regulation, carbon storage through a Class VI well in a storage facility is governed by 20 AAC 25.1000 - 20 AAC 25.1900; "carbon storage" and "storage facility" have the meaning given in AS 41.06.210; "Class VI well" has the meaning given in 20 AAC 25.1900. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110 AS 41.06.120 AS 41.06.210

**20 AAC 25.1010. Prohibition of movement of fluid into underground sources of drinking water; emergency actions.** (a) No owner or operator shall construct, operate,

maintain, convert, plug, abandon, or conduct any injection activity in a manner that allows the movement of fluid containing a contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulations under 40 C.F.R. part 142, or may otherwise adversely affect the health of persons. A storage operator bears the burden of showing the requirements of this subsection are met.

(b) If any water quality monitoring of underground sources of drinking water indicates the movement of any contaminant into an underground source of drinking water, except as authorized under 40 C.F.R. Part 146, the commission will impose additional requirements for construction, corrective action, operation, monitoring, or reporting, including closure of the injection well, as the commission determines is necessary to prevent such movement.

(c) Notwithstanding any other provision of 20 AAC 25.1000 - 20 AAC 25.1900, the commission 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 sources of drinking water may present an imminent and substantial endangerment to the health of persons. (Eff.

4 / 18 / 2020, Register 258 )

**Authority:** AS 41.06.110 AS 41.06.150

**20 AAC 25.1020. Prohibition on operation without a permit; prohibition of non-experimental Class V wells; non-applicability to hazardous waste; prohibition on area permits.** (a) A person shall obtain a storage facility permit from the commission under 20 AAC 25.1080 to construct, own, or operate a storage facility. The commission will not authorize a Class VI well by rule to inject carbon dioxide.

(b) Any underground injection of carbon dioxide for carbon storage through a Class VI

well in a storage facility, except as authorized by a storage facility permit issued by the commission, is prohibited. The construction of a well required to have a storage facility permit under 20 AAC 25.1170 is prohibited before the permit is issued.

(c) 20 AAC 25.1000 - 20 AAC 25.1900 do not apply to the injection of a carbon dioxide stream that is a hazardous waste as defined in 40 C.F.R. Part 146.3, Subpart A (definitions), revised as of September 29, 2025, and adopted by reference.

(d) The construction, operation, or maintenance of any non-experimental Class V geologic sequestration well is prohibited; a Class V well has the meaning given in 40 C.F.R. 144.6(e), Subpart A (classification of wells), as amended effective January 10, 2011, and adopted by reference.

(e) If applicable, any authorization by rule for an existing Class II enhanced recovery or hydrocarbon storage well shall expire upon the effective date of a Class VI permit issued under 20 AAC 25.1080, or a well plug and abandonment plan approved by the commission under 20 AAC 25.1300, or upon well conversion.

(f) The commission may not issue an area injection order for a Class VI well. (Eff.

4 / 18 / 2020, Register 258)

**Authority:** AS 31.05.030 AS 41.06.110 AS 41.06.120

**20 AAC 25.1025. Conversion to carbon storage.** An owner or operator seeking to convert existing Class I, Class II, or Class V experimental wells or any other well authorized by 20 AAC 25.005 to Class VI carbon storage wells must demonstrate to the commission that the wells were engineered and constructed to meet the requirements at 20 AAC 25.1210(a) and ensure protection of underground sources of drinking water, in lieu of requirements at 20 AAC

25.1210(b) and 20 AAC 25.1220(a)(1) - (5). A converted well must still meet all other requirements under 20 AAC 25.1000 - 20 AAC 25.1900. For the purpose of this section, "Class I" well has the meaning given in 40 C.F.R. 144.6, Subpart A (classification of wells), revised January 10, 2011, and adopted by reference, and "Class II" has the meaning given in 20 AAC 25.252. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110      AS 41.06.150      AS 41.06.185  
AS 41.06.120

**20 AAC 25.1030. Storage facility permit; format; signatures.** (a) The storage operator of a proposed storage facility shall apply to the commission for a storage facility permit in a format required by the commission.

(b) The owner of the proposed storage facility must submit the application for a permit; except that when a facility is owned by a person, but operated by another, it is the operator's duty to apply for a storage facility permit.

(c) The commission will only begin processing an application for a storage facility permit when the storage operator has fully complied with the application requirements for a permit.

(d) The commission shall approve the format for a storage facility permit application and associated Class VI permit and injection authorizations for injection under 20 AAC 25.1180. A permit application format approved by the commission must require the signature requirements of 40 C.F.R Part 144.32(a) and (d), the reporting requirements of 40 C.F.R. 144.32(b), and the changes to authorization requirements of 40 C.F.R. 144.32(c) (signatories to permit applications and reports), Subpart D (authorization by permit), revised as of January 10, 2011, and adopted by reference, except that items pertaining to Class II wells are not adopted by reference.

(e) All reports required from a storage operator for a storage facility permit, or other information requested by the commission regarding a storage facility permit application, shall be signed by a person described in 40 C.F.R. 144.32(a), as adopted by reference in this section, or an authorized representative of that person; an authorized representative means a person that qualifies under 40 C.F.R. 144.32(b).

(f) If an authorization under (d) or a signature on a report under (e) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the storage facility, a new authorization that satisfies the signature requirements of this section shall be submitted to the commission before, or concurrent with, any report, information, or application required to be signed by an authorized representative.

(g) Any person signing a document under (d) or (e) 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 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. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110 AS 41.06.120 AS 41.06.130

**20 AAC 25.1040. Preapplication meeting; time to apply for storage facility permit; determination of application fee.** (a) A storage operator seeking a permit for a storage facility shall request a preapplication meeting under AS 41.06.120. The commission may schedule more than one meeting between the proposed applicant and commission staff. A storage operator may request that documents and other materials used in a preapplication meeting be kept confidential under 20 AAC 25.1600.

(b) A storage operator shall apply to the commission a reasonable time before storage facility construction is expected to begin or in compliance with a date determined by the commission based on pre-application contact with the storage operator.

(c) In a preapplication meeting, the commission staff and storage operator shall consider the prospective application, including the application fee under AS 41.06.120(c)(3), potential costs for application review identified in AS 41.06.120(c)(4), determination of storage reservoir capacity under AS 41.06.195, and determination of cost estimates for each phase of the proposed project under 20 AAC 25.1200, and may seek estimates of the cost of professional services required to prepare for and review the permit application. After the preapplication meeting, the commission will prepare a phased application fee and schedule that sets out the fees the commission determines under the criteria of AS 41.06.120(c)(3). This phased application fee will be finalized in cooperation with the storage operator, and the commission may issue an order under 20 AAC 25.556 that sets the phased application fee amount and schedule. (Eff.

4 / 18 / 2026, Register 258)

<b>Authority:</b>	AS 41.06.120	AS 41.06.160	AS 41.06.195
	AS 41.06.135	AS 41.06.175	

**20 AAC 25.1050. Storage facility permit application; general requirements.** To apply for a storage facility permit, a storage operator shall

(1) pay the nonrefundable application fee as determined by order of the commission, and the phased application fee as determined under 20 AAC 25.1040, including the costs of application review and processing under AS 41.06.120;

(2) execute financial assurances as required by the commission to incur costs covered by AS 41.06.120;

(3) submit the information required under 20 AAC 25.1080;

(4) make the demonstration of minimum criteria for siting required by 20 AAC 25.1060;

(5) identify and comply with the area of review requirements of 20 AAC 25.1070;

(6) if applicable, submit information regarding approval for an expansion of the areal extent of an existing aquifer exemption under 20 AAC 25.442;

(7) show evidence of authorization from the surface and subsurface owner to store carbon dioxide in a reservoir;

(8) if applicable, identify any commission order under AS 41.06.140 on amalgamating property interests;

(9) if applicable, identify a carbon storage exploration license or lease issued by the Department of Natural Resources under AS 38.05.705 or AS 38.05.720;

(10) comply with other requirements of 20 AAC 25.1000 - 20 AAC 25.1900.

(Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120      AS 41.06.135      AS 41.06.160  
AS 41.06.130      AS 41.06.140

**20 AAC 25.1060. Minimum criteria for siting.** (a) A storage operator shall demonstrate to the satisfaction of the commission that a Class VI well will be sited in areas with a suitable geologic system. The storage operator shall demonstrate that the geologic system comprises

(1) an injection zone of sufficient areal extent, thickness, porosity, and permeability to receive the total anticipated volume of the carbon dioxide stream;

(2) a confining zone free of transmissive faults or fractures and of sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced formation fluid and allow injection at proposed maximum pressures and volumes without initiating or propagating fractures in the confining zone.

(b) The commission may require that the storage operator identify and characterize additional zones that will impede vertical fluid movement, are free of faults and fractures that may interfere with containment, allow for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and remediation. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110      AS 41.06.120      AS 41.06.135      AS 41.06.150

**20 AAC 25.1070. Area of review; corrective action.** (a) The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon storage stream and is based on available site characterization, monitoring, and operational data.

(b) The storage operator shall prepare, maintain, and comply with a plan to delineate the area of review for a proposed storage facility, periodically reevaluate the delineation, and perform corrective action that meets the requirements of this section and is acceptable to the

commission. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the storage facility permit. As a part of the permit application, the storage operator shall submit an area of review and corrective action plan that includes the following information:

(1) 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;

(2) a description of

(A) the minimum fixed frequency, not to exceed five years, at which the storage operator proposes to reevaluate the area of review;

(B) 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 (b)(2)(A) of this section.

(C) how monitoring and operational data, including the injection rate and pressure, will be used to inform an area of review reevaluation; and

(D) 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.

(c) The storage operator shall perform the following actions to delineate the area of review and identify all wells that require corrective action:

(1) 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 fluid in the subsurface from the commencement of injection activities until the plume movement ceases, until pressure differentials sufficient to cause the movement of injected fluid or formation fluid into a underground sources of drinking water are no longer present, or until the end of a fixed time period as determined by the commission; the model must:

(A) be based on detailed geologic data collected to characterize the injection zone, confining zone, and any additional zones; and anticipated operational data, including injection pressures, rates, and total volumes over the proposed life of the storage facility;

(B) take into account any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions; and

(C) consider potential migration through faults, fractures, and artificial penetrations;

(2) using methods approved by the commission, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone; provide a description of each well's type, construction, date drilled, location, depth, record of plugging or completion, and any additional information the commission may require; and

(3) determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluid that may endanger underground sources of drinking water, including use of materials compatible with the carbon dioxide stream.

(d) The storage operator shall 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 underground sources of drinking water, including use of materials compatible with the carbon dioxide stream, where appropriate.

(e) 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, the storage operator shall:

(1) reevaluate the area of review in the same manner specified in (c)(1) of this section;

(2) identify all wells in the reevaluated area of review that require corrective action in the same manner specified in (c) of this section;

(3) perform corrective action on wells requiring corrective action in the reevaluated area of review in the same manner specified in (d) of this section; and

(4) submit an amended area of review and corrective action plan or demonstrate to the commission 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 commission, must be incorporated into the permit, and are subject to the permit modification requirements at 20 AAC 25.1410 or 20 AAC 25.1430, as appropriate.

(f) The emergency and remedial response plan as required by 20 AAC 25.1260 and the demonstration of financial responsibility as required by 20 AAC 25.1200 must account for the area of review identified in (c)(1) of this section or the most recently evaluated area of review delineated under (e) of this section, regardless of whether or not corrective action in the area of

review is phased.

(g) All modeling inputs and data used to support area of review reevaluations under (e) of this section shall be retained by the record holder and provided to the commission upon request for not less than 10 years. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.135 AS 41.06.150

**20 AAC 25.1080. Storage facility permit; required Class VI well permit information.**

(a) Prior to the issuance of a storage facility permit authorizing the construction of a new Class VI well, or the conversion on an existing Class I, Class II, or Class V well to a Class VI well, the storage operator shall submit, and the commission shall consider the following:

(1) the information required by 40 C.F.R. 144.31 (e) (1) - (6) (application for a permit; authorization by permit), Subpart D (authorization by permit), revised as of January 10, 2011, and adopted by reference;

(2) a map showing the Class VI well for which a permit is sought and the applicable area of review consistent with 20 AAC 25.1070; 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 United States Environmental Protection Agency-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; additionally, the map must also show faults, if known or suspected; only information of public record is required to be included on this map;

(3) information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, including:

(A) maps and cross sections of the area of review;

(B) the location, orientation, and properties of known or suspected faults or fractures that may transect the confining zone in the area of review and a determination of non-interference with containment;

(C) data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone, including geology or facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;

(D) geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone;

(E) information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment;

(F) geologic and topographic maps and cross sections that illustrate regional geology, hydrogeology, and the geologic structure of the local area;

(4) a tabulation of all wells within the area of review which penetrate the injection or confining zone; the data must include a description of each well type, construction, date drilled, location, depth, record of plugging or completion, and any additional information required by the commission;

(5) maps and stratigraphic cross sections indicating the general vertical and lateral limits of all underground sources of drinking water, water wells, and springs within the area of

review, their positions relative to the injection zone, and, where known, the direction of water movement;

(6) baseline geochemical data on subsurface formations, including all underground sources of drinking water in the area of review;

(7) proposed operating data for the proposed carbon storage site, including

(A) the average and maximum daily rate and volume or mass and total anticipated volume or mass of the carbon dioxide stream;

(B) the average and maximum injection pressure;

(C) the source of the carbon dioxide stream; and

(D) an analysis of the chemical and physical characteristics of the carbon dioxide stream;

(8) the proposed pre-operational formation testing program to obtain an analysis of the chemical and physical characteristics of the injection zone and confining zone that meets the requirements of 20 AAC 25.1220;

(9) the proposed stimulation program, a description of stimulation fluid to be used and a determination that stimulation will not interfere with containment;

(10) the proposed procedure to outline steps necessary to conduct injection operation;

(11) schematics or other appropriate drawings of the surface and subsurface construction details of the well;

(12) the Class VI well construction procedures that meet the requirements of 20 AAC 25.1210;

(13) the proposed area of review and corrective action plan that meets the

requirements under 20 AAC 25.1070;

(14) a demonstration, satisfactory to the commission, that the storage operator meets the financial responsibility requirements under 20 AAC 25.1200;

(15) the proposed testing and monitoring plan required by 20 AAC 25.1250;

(16) the proposed Class VI well plugging plan required by 20 AAC 25.1300;

(17) the proposed post-injection site care and site closure plan required by 20 AAC 25.1310;

(18) at the commission's discretion, a demonstration of an alternative post-injection site care timeframe required by 20 AAC 25.1310(h);

(19) a proposed emergency and remedial response plan required by 20 AAC 25.1260;

(20) a list of contact information to the commission that identifies any state, tribe or territory within the area of review of the proposed storage facility based on the information provided by the map required in (a)(2) of this section;

(21) any other information required by the commission.

(b) The commission will notify in writing any state, tribe, or territory within the area of review of the proposed storage facility based on the information provided by the applicant in (a)(2) and (a)(20) of this section and pursuant to the requirements of 40 C.F.R. 145.23 (f)(13), effective January 10, 2011, and adopted by reference.

(c) Before granting approval for the operation of Class VI well the commission will consider the following information:

(1) the final area of review based on modeling, using data obtained during logging and test of the proposed Class VI well, and the formation as required by (c)(2) - (4), (6), (7), and

(10) of this section.

(2) any relevant updates based on data obtained during logging and testing of the well and the formation required by (c)(3), (4), (6), (7), and (10) of this section, to the information on geologic structure and hydrogeologic properties of the proposed storage site and overlying foundation submitted to satisfy the requirements of (a)(3) of this section;

(3) information on the compatibility of the carbon dioxide stream with fluid in the injection zone and minerals in both the injection and confining zone, based on the results of the formation testing program, and with the materials used to construct the well;

(4) the results of the formation testing program required by (a)(8) of this section;

(5) the final Class VI well construction procedures that meet the requirements of 20 AAC 25.1210;

(6) the status of corrective action on wells in the area of review under 20 AAC 25.1070;

(7) all available logging and testing program data required by 20 AAC 25.1220;

(8) a demonstration of mechanical integrity under 20 AAC 25.1240;

(9) any updates to the proposed area of review and corrective action plan under 20 AAC 25.1070, testing and monitoring plan under 20 AAC 25.1250, Class VI well plugging plan under 20 AAC 25.1300, post-injection site care and site closure plan under 20 AAC 25.1310 or the emergency and remedial response plan submitted under 20 AAC 25.1260 as required by (a) of this section, which are necessary to address new information collected during the logging and testing of the Class VI well to be used in the storage facility and the formation as required by all paragraphs of this section and any updates to the alternative post-injection site care timeframe demonstration under 20 AAC 25.1310, if applicable, submitted under (a) of this section and

which are necessary to address new information collected during the logging and test of the well and the formation as required by all paragraphs of this section; and

(10) any other information required by the commission.

(d) A storage operator seeking a waiver of the requirement to inject below the lowermost underground source of drinking water shall also refer to 20 AAC 25.1270 and submit a supplemental report as required under that section. A supplemental report is not a part of the permit application. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120      AS 41.06.135      AS 41.06.150  
AS 41.06.130

**20 AAC 25.1085. Amalgamating property interests.** If, as part of an application for a storage facility permit, a hearing is required under AS 41.06.140, the commission will provide public notice as required by AS 31.05.050(b) and to the persons identified in AS 41.06.125(b). A hearing under AS 41.06.140 will be conducted in accordance with the provisions of 20 AAC 25.540. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.125      AS 41.06.120      AS 41.06.160

**20 AAC 25.1100. Draft permit; fact sheet.** (a) The commission may issue a draft storage facility permit when the commission determines an application under 20 AAC 25.1050 is complete, including receipt of any supplemental information required by the commission. After the commission determines that an application for a storage facility permit is complete, the commission will either prepare a draft permit or deny the application. The commission will

determine the completeness of an application for a storage facility permit independently of any other permit application or permit for the same facility or activity.

(b) If the commission tentatively decides to deny an application for a storage facility permit, it will issue a notice of intent to deny. Except for a denial based on an incomplete application, a notice of intent to deny an application for a permit is a type of draft permit, and the commission will follow the procedure as any draft permit prepared under this section. If the commission's final decision is that the tentative decision to deny a permit was incorrect, the commission will withdraw the notice of intent to deny and proceed to prepare a draft permit under this section.

(c) Before preparing a draft permit,

(1) the commission will determine the storage capacity of the proposed storage facility under 20 AAC 25.1280 and the fee to be charged to the person applying for the permit under AS 41.06.120 (a)(3) and (4); and

(2) will make the consultation required in AS 41.06.130.

(d) In addition to the findings required under AS 41.06.130, a draft permit must include all the permit conditions required under 20 AAC 25.1120, 20 AAC 25.1130, all compliance schedules under 20 AAC 25.1140, all monitoring requirements under 20 AAC 25.1250, and other conditions determined by the commission.

(e) The commission will prepare a fact sheet for each draft permit for each completed storage facility permit application under 20 AAC 25.1050. In addition to setting out the principal facts, and the significant factual, legal, methodological, and policy questions identified by the commission, a fact sheet must include, as applicable

- (1) a brief description of the type of facility or activity that is the subject of the draft permit;
- (2) the type and quantity of carbon dioxide that is to be injected and stored;
- (3) a brief summary of the basis for the draft permit conditions including references to applicable statutes and regulations;
- (4) reasons why any requested variances or alternatives to required standards do or do not appear justified;
- (5) a description of the procedure for making a final decision on the draft permit, including
  - (A) the beginning and ending dates of the comment period under 20 AAC 25.1050 and the address where comments will be received;
  - (B) how to request a hearing and the nature of that hearing;
  - (C) any other procedures by which the public may participate in the final decision;
  - (D) the name and contact information, including a telephone number, of a person to contact for additional information;
- (6) if applicable, a description of information related to a Class VI well injection depth waiver request under 20 AAC 25.1270.
- (f) The commission will notify and provide a copy of the draft permit and fact sheet, or if applicable, a notice of intent to deny, to persons entitled to notice under 20 AAC 25.1150; the materials required to be publicly provided may be provided electronically and may include an electronic link to access the materials. (Eff. 4 / 18 / 2026 , Register 258 )

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.135

AS 41.06.125

**20 AAC 25.1120. Conditions applicable to all permits.** (a) For each storage facility permit, including a draft permit under 20 AAC 25.1100, the commission will incorporate, either expressly or by reference, the conditions of this section and applicable federal or state law. If incorporated by reference, a specific citation to the applicable state regulation must be given in the permit. The storage operator shall comply with all conditions of the permit; any 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. The storage operator shall give advance notice to the commission of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements

(b) If a storage operator wishes to continue an activity regulated by a storage facility permit after the expiration date of the permit, the storage operator shall apply for and obtain a new permit.

(c) It is not a defense for a storage operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit;

(d) A storage operator shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit;

(e) A storage facility operator 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 storage operator 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 responsibility requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. A storage operator shall give notice to the commission as soon as possible of any planned physical alterations or additions to the storage facility.

(f) A storage facility permit may be modified, revoked and reissued, or terminated for cause under 20 AAC 25.1410. The filing of a request by the storage operator for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Except as provided by AS 41.06.165; the storage facility permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

(h) The storage operator shall furnish to the commission, within a time specified by the commission, any information which the commission may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a storage facility permit, or to determine compliance with the permit. The storage operator shall also furnish to the commission, upon request, copies of records required to be kept by the storage facility permit.

(i) The storage operator shall allow the commission or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(1) enter the storage facility premises where the regulated facility or activity is located or conducted or where records must be kept under the conditions of the permit;

(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(3) inspect at reasonable times, any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under the permit; and

(4) sample or monitor at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by the Safe Drinking Water Act, any substance or parameters at any location.

(j) The storage operator shall prepare, maintain, and comply with a testing and monitoring plan under 20 AAC 25.1250.

(k) The storage operator shall comply with reporting requirements under 20 AAC 25.1610.

(l) The storage operator shall obtain a Class VI well permit under 20 AAC 25.1180, and a Class VI well must meet the construction and completion requirements of 20 AAC 25.1210.

(m) The storage operator shall prepare, maintain, and comply with a Class VI well plugging plan under 20 AAC 25.1300(b).

(n) The storage operator shall establish and maintain mechanical integrity before commencing injection and shall maintain mechanical integrity under 20 AAC 25.1240.

(o) The storage operator shall prepare, maintain, and comply with the area of review and corrective action plan under 20 AAC 25.1070.

(p) The storage operator shall maintain financial responsibility under 20 AAC 25.1200.

(q) The storage operator shall maintain and comply with the postinjection and site care and facility closure plan under 20 AAC 25.1310. (Eff. 4 / 18 / 2026 , Register 258 )

**Authority:** AS 41.06.120 AS 41.06.135 AS 41.06.150

AS 41.06.130

**20 AAC 25.1130. Establishing storage facility permit conditions.** (a) In addition to the requirements of 20 AAC 25.1080 and 20 AAC 25.1020, the commission will establish additional conditions for a storage facility permit and associated Class VI well as required on a case-by-case basis to prevent the migration of fluid into underground sources of drinking water and assure compliance with the Safe Drinking Water Act and 40 C.F.R. parts 144, 145, 146, and 124 and to provide for and assure compliance with federal or state legal requirements that take effect before the commission makes a final determination to issue a storage facility permit under 20 AAC 25.1080

(b) A new storage facility permit, and to the extent allowed under 20 AAC 25.1410, a modified or revoked and reissued permit, must incorporate the requirements of this section and 20 AAC 25.1120.

(c) The conditions in this section must be incorporated into a final permit either expressly or by reference. If incorporated by reference, the commission will identify in the permit a specific citation to the applicable regulation or other requirement. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.135

**20 AAC 25.1140. Schedule of compliance.** (a) As required by the commission on a case-by-case basis, the storage operator shall submit to the commission identified actions to be taken to achieve full compliance with the requirements of a storage facility permit and associated Class VI well. A schedule of compliance must require compliance as soon as possible, and in no case

later than three years after the date of the storage facility permit under 20 AAC 25.1170. If the permit establishes a schedule of compliance that exceeds one year from the date of the storage facility permit under 20 AAC 25.1170, the schedule of compliance must set forth interim requirements and dates for completion; the time between interim dates must not exceed one year. If the time necessary for completion of any interim requirement is more than one year, and is not readily divisible into stages for completion, the storage facility permit must specify interim dates for the submission of reports of progress toward completion of the interim requirements and shall indicate a project completion date. The permit must require that, if the commission requires a schedule of compliance, the storage operator shall submit a progress report to the commission not later than 30 days after each interim date and the final date of completion.

(b) A storage operator shall report any noncompliance which may endanger health or the environment, including:

- (1) any monitoring or other information which indicates that any contaminant may endanger underground sources of drinking water;
- (2) any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

(c) A storage operator shall orally report noncompliance covered by (b) of this section to the commission within 24 hours from the time the storage operator becomes aware of the noncompliance. A storage operator shall provide a written submission to the commission within 5 days of the time the storage operator becomes aware of the non-compliance, including

- (1) a description of the noncompliance and its cause;
- (2) the period of noncompliance, including exact dates and times,

(3) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

(4) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(d) For noncompliance not covered by (b) of this section, the storage operator shall report all instances of noncompliance not reported in (c) of this section, at the time monitoring reports required by 20 AAC 25.1250 and 20 AAC 25.1610 are submitted. The reports must contain the information listed in paragraph (c) of this section,

(e) When a storage operator becomes aware that the storage operator failed to submit any relevant facts in a storage facility permit application, or submitted incorrect information in a storage facility permit application or in any report to the commission, the storage operator shall promptly submit such facts or information to the commission. (Eff. 4/18/2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.135

**20 AAC 25.1150. Public hearing; notice; public comment.** (a) The commission will hold a public hearing subject to the requirements of AS 41.06.125 and this section before issuing or denying a completed storage facility permit application or issuing a modification and revocation of a permit under 20 AAC 25.1410.

(b) The commission will give not less than 30 days' notice of a public hearing under this section and will allow not less than 30 days for public comment. The time for public comment under this subsection may end after a public hearing that is scheduled on the issue.

(c) In addition to publication of notice required by AS 31.05.050(b), the commission will provide notice and a fact sheet, permit application, and draft permit accessible by an electronic link by electronic mail or if requested by the intended recipient, by United States Postal Service mail to the persons identified in AS 41.06.125 (b), and to

- (1) the storage operator;
- (2) the U.S. Environmental Protection Agency, Region 10, Drinking Water program;
- (3) the U.S. Environmental Protection Agency, Underground Injection Control Program;
- (4) the Alaska Department of Fish and Game;
- (5) the Alaska Department of Natural Resources;
- (6) the Alaska Historical Commission;
- (7) The Office of History and Archeology within the Alaska Department of Natural Resources;
- (8) the Alaska Department of Environmental Conservation;
- (9) any affected States and Indian Tribes;
- (10) other appropriate governmental authorities, including any unit of local government having jurisdiction over the area covered by a proposed storage facility;
- (11) the U.S. Army Corps of Engineers;
- (12) federal and state agencies not listed above with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans;
- (13) persons on an area notice list developed by the commission that includes persons who request in writing to be on the notice list, participants in past permit actions in the

area of the proposed storage facility, and by notifying the public, through publication in newspaper of general circulation, or other written publication, including State-funded newsletters, or environmental bulletins of the opportunity to be on the notice list for an area proposed for carbon storage activities;

(14) any other federal or state agency or tribe that the commission knows has issued or is required to issue a permit for the same storage facility or carbon storage activity;

(d) A public notice issued under this section must contain the following information:

(1) the name and address of the commission processing the permit action for which notice is being given;

(2) the name and address of the storage operator, and if different, the facility or activity subject to the hearing;

(3) a brief description of the business conducted at the facility or activity described in the permit application or draft permit;

(4) a brief summary of the basis for the draft permit conditions, or findings under AS 41.06.170;

(5) the name, physical and electronic mailing address, telephone number of a person, and website link information from where an interested person may obtain documents related to the subject of the hearing, including the draft permit, the fact sheet, the application for a storage facility permit or certificate of closure, and further information concerning a permit, other information required by 40 C.F.R. 124.10(d)(1) (public notice of permit actions and public comment period), subpart A (general program requirements), revised as of June 12, 1990, and adopted by reference;

(6) a brief description of the public comment process, including the time period in

which to submit public comments, the address where to submit comments by writing, through electronic mail, or online comment link, and information on how to attend and participate in a public hearing;

(7) any additional information the commission considers necessary or proper.

(e) In addition to the requirements for the contents of a public notice under (d) of this section, a public notice of hearing must contain the following information:

(1) reference to the date of previous public notice relating to the permit or storage facility;

(2) the date, time, and place of the hearing; and

(3) a brief description of the nature of the nature and purpose of the hearing, including applicable rules and procedures.

(f) During the public comment period, and at a public hearing under this section, any person may submit written or oral statements and data concerning the subject of the hearing. The commission may set reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. The commission may, at the hearing, extend the time for submission of written comments. The commission will make a transcript or recording of the hearing available to the public; the commission may produce a written transcript of a hearing under this section.

(g) The commission will consider public comment in making a final decision on a storage facility permit or modification under 20 AAC 25.1410, and will issue a response when the final determination is issued that

(1) specifies which provisions, if any, of the draft permit have been changed in the final decision, and the reasons for the change;

(2) briefly describes and responds to all significant comments on the draft permit raised during the public hearing or public comment period.

(h) A response to public comments under (g) of this section will be made available to the public.

(i) Public notice and comment under this section is not required for a minor permit modification under 20 AAC 25.1430 or for a permit denial when the commission determines a permit application is incomplete. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 31.05.030                      AS 41.06.125                      AS 41.06.145  
AS 41.06.120

**20 AAC 25.1160. Duration; storage facility permit.** (a) Upon approval of a storage facility permit, the commission will issue the permit for the operating life of the facility and the post-injection site care period specified in the permit. The commission will review each storage facility permit, including each associated Class VI well permit, not less than once every five years to determine if it should be modified, revoked and reissued, terminated, or a minor modification made as provided in this chapter. The term of a permit may not be extended by modification beyond the maximum duration specified in this subsection except as provided in (d) of this section.

(b) The commission may issue a storage facility permit for a duration that is less than the full allowable term under (a) of this section.

(c) A storage facility permit, including a Class VI well permit and authorization to inject for a Class VI well, may only be transferred, modified, revoked and reissued, terminated, or a minor modification made as provided in 20 AAC 25.1410 or, 20 AAC 25.1430, as applicable.

(d) The conditions of an expired storage facility permit may continue until the effective date of a new permit if the storage operator has submitted a timely and complete application under 20 AAC 25.1080, and the commission, through no fault of the storage operator, does not issue a new permit with an effective date on or before the expiration date of the previous permit. A permit continued under this subsection remains fully effective and enforceable. When a storage operator is not in compliance with the terms of an expiring or expired storage facility permit, the commission may

(1) initiate enforcement action, including civil penalties under AS 41.06.180;

(2) issue a notice of intent to deny the new permit; in the event of a notice of intent to deny, the storage operator must cease activities authorized by the permit, except for approved well plugging and abandonment under 20 AAC 25.1300, or be subject to enforcement action;

(3) issue a new permit consistent with the requirements and process of 20 AAC 25.1410; or

(4) take other actions authorized by AS 41.06.110 or this chapter. (Eff.

4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.60.145

**20 AAC 25.1170. Storage facility permit.** (a) After notice, public hearing, and consideration of public comment, and in compliance with AS 41.06, the commission may issue or deny a storage facility permit. A decision on a storage facility permit requires approval of at least two commissioners. If the commission denies a storage facility permit, it will issue a written determination of the reasons for the denial under 20 AAC 25.1150 and provide notice of

denial to the storage operator and the commissioner of the department of natural resources. A denial is a final agency decision.

(b) If the commission issues a storage facility permit, and in addition to the requirements of AS 41.06.145, a final storage facility permit must

(1) contain a description of the commission's findings under AS 41.06.130(b); this description may include references to federal or state regulation that require the conditions on which the commission's findings are based;

(2) as applicable, contain a description of parameters required by AS 41.06.135;

(3) include all conditions required for a permit under 20 AAC 25.1080, 20 AAC 25.1120 and 20 AAC 25.1130;

(4) identify and require as a condition of a permit timely payment of all fees associated with permit issuance and storage facility operations, including the injection surcharge required by AS 41.06.175;

(5) for a storage facility permit located on all or part on land where a carbon lease is required, require a storage facility permit holder to maintain its status as the holder of a carbon lease issued under AS 38.05.715;

(6) for a storage facility permit located on land where a carbon lease under AS 38.05.715 is not required, evidence of the lease or other agreement between the applicant for the storage facility permit and the surface and subsurface landowner;

(7) require a storage facility permit holder to maintain required payments, including payment of the carbon storage facility injection surcharge under AS 41.06.175;

(8) any other conditions the commission may require to protect underground sources of drinking water or public health and safety. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.135 AS 41.06.150  
AS 41.06.130

**20 AAC 25.1180. Class VI well permit; authorization to inject.** (a) At the time of or following issuance of a storage facility permit under 20 AAC 25.1170, a storage operator shall obtain a permit to drill, deepen, convert, or operate, a Class VI well, or upon a demonstration of mechanical integrity under 20 AAC 25.1240, reenter a previously plugged and abandoned well for carbon storage purposes.

(b) A storage operator must submit an application to drill, deepen, convert, operate, or reenter a well to the commission in the format and with the information required by the commission.

(c) Not more than 30 days after conclusion of well drilling and completion activities, the storage operator shall submit to the commission an application to operate a Class VI well; the application shall be in a format approved by the commission and contain the information required by the commission. The application must include notice of the completion of construction in compliance with 20 AAC 25.1210. The commission may inspect or otherwise make a determination that the Class VI well is in compliance with the conditions of the permit.

(d) Injection of carbon dioxide is prohibited until construction is complete, or for a Class II well converting to carbon storage, approval by the commission of well mechanical integrity under 20 AAC 25.1240, and

(1) the storage operator has submitted a notice of completion of construction, or confirmation of well mechanical integrity as determined by the commission;

(2) the commission has approved an authorization to inject; for the purpose of this section, an authorization to inject means a commission-approved authorization to a storage operator of a Class VI well or other injection well to begin injection of carbon dioxide in approved amounts into a storage facility;

(e) An authorization to inject shall expire 12 months from the date it is issued if the injection well has not been drilled, deepened, reentered, operated or converted, unless extended by the commission at the request of the storage operator.

(f) No hearing is required for the commission to consider and approve or deny a request for an authorization to inject under a storage facility permit.

**Authority:** AS 41.06.120 AS 41.06.135

**20 AAC 25.1200. Financial responsibility.** (a) A storage operator shall demonstrate and maintain one of the following forms of financial responsibility satisfying the requirements of this section:

- (1) trust fund;
- (2) surety bond;
- (3) letter of credit;
- (4) insurance;
- (5) self-insurance, including financial test and corporate guarantee;
- (6) escrow account; or
- (7) any other instrument satisfactory to the commission.

(b) Qualifying financial responsibility under this section must be sufficient to address endangerment of underground sources of drinking water and cover the cost of

- (1) corrective action that meets the requirements of 20 AAC 25.1070;
- (2) Class VI well plugging that meets the requirements of 20 AAC 25.1300;
- (3) post injection site care and site closure that meets the requirements of 20 AAC 25.1310; and
- (4) emergency and remedial response that meets the requirements of 20 AAC 25.1260.

(c) Qualifying financial responsibility under this section must include the following protective conditions of coverage:

(1) cancellation, renewal, and continuation provisions, including a prohibition on cancellation, termination, or failure to renew for other than failure to pay the financial instrument; 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

- (A) the commission deems the storage facility abandoned;
- (B) the permit is terminated or revoked or a new permit is denied;
- (C) closure is ordered by the commission or a U.S. district court or other court of competent jurisdiction;
- (D) the storage operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy) U.S. Code; or
- (E) the amount due is paid.

(2) notice of cancellation, termination, or non-renewal by certified mail to the storage operator and the commission received not less than 120 days prior to cancellation, termination, or non-renewal;

(3) 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

(4) requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.

(d) If a provider cancels, terminates, or fails to renew financial responsibility under this section for failure to pay, the storage operator shall 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 commission.

(e) A storage operator shall renew all financial instruments, if an instrument expires, for the entire term of the storage facility. The instrument may automatically renew if the storage 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.

(f) The qualifying financial responsibility under this section must be approved by the commission and may include more than one qualifying financial instrument for a storage facility or phase of a storage facility. In addition,

(1) the commission will require a financial responsibility demonstration for all the phases of the storage facility before issuing a storage facility permit under 20 AAC 25.1170 and

(2) the storage operator shall provide any updated information related to the storage operator's financial responsibility instruments to the commission on an annual basis, and if there are any changes, the commission will evaluate, within a reasonable time, the financial responsibility demonstration to confirm that the instrument used remain adequate for use; the

storage operator shall maintain financial responsibility requirements regardless of the status of the commission's review of the financial responsibility demonstration;

(3) the commission may disapprove of the use of a financial instrument if the commission determines that it is not sufficient to meet the requirements of this section.

(g) In making the financial responsibility demonstration required by this section, the storage operator may demonstrate financial responsibility by using one or multiple qualifying financial instruments for specific phases of the carbon storage project. If a storage operator combines more than one instrument for a specific carbon storage phase, including well plugging, the combination may not include instruments that are based on financial strength or performance of the storage operator, such as self-insurance or a performance bond, but shall include other mechanisms described in (a) of this section, including trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, escrow accounts, and insurance. Financial responsibility under this subsection is demonstrated by the combination of mechanisms, rather than a single mechanism, which must provide coverage for an amount at least equal to the current cost estimate. To demonstrate financial responsibility under this subsection, a storage operator

(1) when using a third-party instrument to demonstrate financial responsibility, shall provide proof that the third-party providers either have passed financial strength requirements based on credit ratings; or have met a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable;

(2) when using certain types of third-party instruments shall establish a standby trust to enable the commission to be party to the financial responsibility agreement without the commission 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;

(3) when using a surety bond or cash bond to satisfy its financial responsibility requirements, shall be the principal on the bond and each surety bond must be executed by a responsible surety company authorized to transact business in this state;

(4) 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 well carbon storage financial responsibility from other accounts and uses.

(h) A storage operator or the storage operator's guarantor may use self-insurance to demonstrate financial responsibility for a storage facility. To satisfy this requirement, the storage operator shall

(1) meet a tangible net worth of an amount approved by the commission,

(2) 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,

(3) 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

(4) submit a report of its bond rating and financial information annually to the commission on a date set by the commission.

(i) The storage operator shall either

(1) 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

(2) meet all of the following five financial ratio thresholds

- (A) a ratio of total liabilities to net worth less than 2.0;
- (B) a ratio of current assets to current liabilities greater than 1.5;
- (C) a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1;
- (D) a ratio of current assets minus current liabilities to total assets greater than -0.1; and
- (E) a net profit, revenues minus expenses, greater than 0.

(j) A storage operator that is unable to meet corporate financial test criteria in this section may arrange a corporate guarantee by demonstrating to the commission 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 obligations for the storage operator.

(k) If a storage operator uses an insurance policy other than a self-insurance policy that meets the requirements of this section to meet its financial responsibility requirements under this section, the insurance policy must be obtained from a third-party provider.

(l) The requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of a storage facility permit under 20 AAC 25.1130. The storage operator shall maintain financial responsibility and resources until the commission issues a certificate of completion under 20 AAC 25.1320, although a storage operator may be released from certain financial instruments under (m) of this section.

(m) The storage operator may be released from a financial instrument if

- (1) the storage operator has completed the phase of the storage facility for which

the financial instrument was required and has fulfilled all its financial obligations as determined by the commission, including obtaining financial responsibility for the next phase of the storage facility, if required; or

(2) the storage operator has submitted a replacement financial instrument and received written approval from the commission accepting the new financial instrument and releasing the storage operator from the previous financial instrument; or

(3) the commission issues a certificate of completion under 20 AAC 25.1320.

(n) The storage operator shall provide to the commission a detailed written estimate, in current dollars, of the cost of performing corrective action on wells in the area of review under 20 AAC 25.1070, plugging the Class VI well under 20 AAC 25.1300, post-injection site care and site closure under 20 AAC 25.1310, and the emergency and remedial response plan under 20 AAC 25.1260. The cost estimate shall be performed for each phase of a storage facility separately; the cost estimate must be based on the costs to the commission of hiring a third party to perform the required activities. For the purposes of this subsection, a third party is a party who is not within the corporate structure of the storage operator.

(o) During the active life of the storage facility, the storage operator must adjust the cost estimate for inflation within 60 days before the anniversary date of the establishment of the financial instrument used to comply with this section and provide the adjustment to the commission. The storage operator shall also provide to the commission written updates of adjustments to the cost estimate within 60 days of any amendments to the area of review and corrective action plan under 20 AAC 25.1070, the Class VI well plugging plan under 20 AAC 25.1300, the post-injection site care and site closure plan under 20 AAC 25.1310, and the emergency and remedial response plan under 20 AAC 25.1260. In adjusting for the cost of

inflation, the storage operator shall use the consumer price index for urban consumers for urban Alaska, as determined by the United States Department of Labor, Bureau of Labor Statistics, without seasonal adjustment, for December of the proceeding calendar year.

(p) The commission must approve any decrease or increase to the initial cost estimate under (n) of this section. During the active life of the storage facility, the storage operator shall revise the cost estimate not later than 60 days after the commission has approved a request to modify the area of review and corrective action plan under 20 AAC 25.1070, the Class VI well plugging plan under 20 AAC 25.1300, the post-injection site care and site closure plan under 20 AAC 25.1310, and the emergency and response plan under 20 AAC 25.1260, if the change in the plan increases the cost. If the change to the plan decreases the cost, any withdrawal of funds must be approved by the commission. Any decrease to the value of the financial assurance instrument must first be approved by the commission. The revised cost estimate shall be adjusted for inflation as specified in (o) of this section. Whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the storage operator, within 60 days after the increase, shall 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 commission, 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 storage operator has received written approval from the commission.

(q) The storage operator shall notify the commission by certified mail or other trackable written delivery method of adverse financial conditions such as bankruptcy that may affect the

ability to carry out its Class VI well plugging and post-injection site care and site closure under 20 AAC 25.1310. Notification shall occur

(1) in the event the storage operator or the third-party provider of a financial responsibility instrument is named as a debtor in a bankruptcy proceeding; the notice under this paragraph shall be made within 10 days after commencement of the bankruptcy proceeding; or

(2) by a guarantor of a corporate guarantee if the guarantor is named as debtor, as required under the terms of the corporate guarantee.

(r) A storage operator who fulfills the requirements of (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 storage operator shall establish other financial assurance within 60 days after the event.

(s) The storage operator shall provide an adjustment of the cost estimate this section, and any amended cost estimates, to the commission within 60 days of notification by the commission, if the commission determines during the annual evaluation of the qualifying financial responsibility instrument that the most recent demonstration is no longer adequate to cover the cost of corrective action required by 20 AAC 25.1070, Class VI well plugging as required by 20 AAC 25.1300, post-injection site care and site closure as required by 20 AAC 25.1310, and emergency and remedial response as required by 20 AAC 25.1260.

(t) The commission must approve the use and length of pay-in-periods for trust funds or escrow accounts. (Eff. 4 / 18 / 2026 Register 258 )

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.135

**20 AAC 25.1210. Class VI well construction requirements.** (a) A storage operator shall ensure and demonstrate to the commission that each Class VI well, including a Class II well converted to a Class VI well to use for carbon storage, is constructed and completed to

- (1) prevent the movement of fluid into or between underground sources of drinking water or into any unauthorized zone;
- (2) permit the use of appropriate testing devices and workover tools; and
- (3) permit continuous monitoring of the annulus space between the injection tubing and long string casing.

(b) The 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 storage facility. All well material must be compatible with fluid with which the material 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 commission. The storage operator's casing and cementing program shall be designed to prevent the movement of fluid into or between underground sources of drinking water. In order to allow the commission to determine and specify casing and cementing requirements for a Class VI well, the storage operator shall provide the following information:

- (1) depth to the injection zone;
- (2) injection pressure, external pressure, internal pressure, and axial loading;
- (3) hole size;
- (4) size and grade of all casing strings, including wall thickness, external

diameter, nominal weight, length, joint specification, and construction material;

- (5) corrosiveness of the carbon dioxide stream and formation fluid;
- (6) down-hole temperatures;
- (7) lithology of injection and confining zone or zones;
- (8) type or grade of cement and cement additives; and
- (9) quantity, chemical composition, and temperature of the carbon dioxide stream.

(c) In addition to the requirements of (b) of this section, the following requirements apply to the construction and mechanics of a Class VI well:

(1) the surface casing must extend through the base of the lowermost underground source of drinking water and be cemented to the surface through the use of a single or multiple strings of casing and cement;

(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;

(3) the circulation of cement may be accomplished by staging; the commission may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the storage operator can demonstrate by using logs that the cement does not allow fluid movement behind the well bore;

(4) the cement and cement additives must be compatible with the carbon dioxide stream and formation fluid and of sufficient quality and quantity to maintain integrity over the design life of the storage facility; in demonstrating this compatibility, 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 underground sources of drinking water are not endangered.

(d) A storage operator shall ensure that the tubing and packer material used in the construction of each Class VI well are compatible with fluid with which the material may be expected to come into contact and must meet or exceed standards developed for such material by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the commission. Accordingly, each storage operator shall inject fluid into a Class VI well through tubing with a packer set at a depth opposite a cemented interval at the location approved by the commission. To allow the commission to determine and specify requirements for tubing and packer, the storage operator shall submit the following information as part of a storage facility permit process under 20 AAC 25.1080:

- (1) depth of setting;
- (2) characteristics of the carbon dioxide stream, chemical content, corrosiveness, temperature, and density, and types of formation fluid;
- (3) maximum proposed injection pressure;
- (4) maximum proposed annular pressure;
- (5) proposed injection rate, intermittent or continuous, and volume or mass of the carbon dioxide stream;
- (6) size of tubing and casing; and
- (7) tubing tensile, burst, and collapse strengths.

(e) Notwithstanding (b) - (d) of this section, if the commission determines that a well previously used for enhanced oil or gas recovery and related well activities and that is converted for use as a Class VI well under AS 41.06.185 and this chapter will not endanger underground

sources of drinking water, the commission may exempt the storage operator from complying with the casing and cementing requirements of (b)(1) - (9) and (c) of this section and from the logging, sampling, and testing requirements of 20 AAC 25.1220. (Eff. 4 / 18 / 2020, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.185

**20 AAC 25.1220. Logging, sampling, and testing before Class VI well operation. (a)**

During the drilling and construction of a Class VI well, the storage operator shall run appropriate logs, surveys and tests to determine or verify the depth, thickness, porosity, permeability, and lithology of, and the salinity of any formation fluid in all relevant geologic formations to ensure conformance with the Class VI well construction requirements under 20 AAC 25.1210 and to establish accurate baseline data against which future measurements may be compared. The storage operator shall submit to the commission not more than 90 days after completion, a descriptive report prepared by a knowledgeable log analyst that includes an interpretation of the results of such logs and tests. At a minimum, logs and tests under this section must include:

(1) deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method; the 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

(2) before and upon installation of the surface casing

(A) resistivity, spontaneous potential, and caliper logs before the casing is installed; and

(B) a cement bond and variable density log to evaluate cement quality radially, and a temperature log after the casing is set and cemented;

(3) before and upon installation of the long string casing

(A) resistivity, spontaneous potential, porosity, caliper, gamma ray, fracture finder logs, and any other logs the commission requires for the given geology before the casing is installed; and

(B) a cement bond and variable density log, and a temperature log after the casing is set and cemented;

(4) a series of tests designed to demonstrate the internal and external mechanical integrity of injection wells, which may include:

(A) a pressure test with liquid or gas;

(B) a tracer survey such as oxygen-activation logging;

(C) a temperature or noise log;

(D) a casing inspection log; and

(5) any alternative methods that provide equivalent or better information than would be provided by the tests in (a)(1) - (4) of this subsection and that are required by or approved by the commission.

(b) The storage operator shall take whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone, and shall submit to the commission a detailed report prepared by a log analyst that includes well log analyses, including well logs, core analyses, and formation fluid sample information. The commission may accept information on cores from nearby wells if the storage operator demonstrates that core retrieval is not possible and that such cores are representative of conditions at the well. The commission

may require the storage operator to core other formations in the borehole.

(c) The storage operator shall record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone.

(d) At a minimum, the storage operator shall determine or calculate the following information concerning the injection and confining zone:

(1) fracture pressure;

(2) other physical and chemical characteristics of the injection and confining zone; and

(3) other physical and chemical characteristics of the formation fluid in the injection zone.

(e) To verify hydrogeologic characteristics of the injection zone, the storage operator shall, upon completion of a Class VI well but before operation, conduct a pressure fall-off test and

(1) a pump test; or

(2) injectivity tests.

(f) The storage operator shall provide the commission with the opportunity to witness all logging and testing required by this section. The storage operator shall submit a schedule of such activities to the commission not less than 30 days before conducting the first test and submit any changes to the schedule not less than 30 days before the next scheduled test. (Eff.

4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.135

**20 AAC 25.1230. Class VI well operating requirements.** (a) Except during stimulation, the storage operator shall ensure that injection pressure in a Class VI well does not exceed 90 percent of the fracture pressure of the injection zone so as to ensure that the injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case may injection pressure initiate fractures in the confining zone or cause the movement of injection or formation fluid that endangers underground sources of drinking water. Under 20 AAC 25.1080(a)(9), all stimulation programs must be approved by the commission as part of the storage facility permit application and incorporated into the permit.

(b) Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited.

(c) The storage operator shall fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the commission. The storage operator shall maintain on the annulus a pressure that exceeds the operating injection pressure, unless the commission determines that such requirement might harm the integrity of the well or endanger underground sources of drinking water.

(d) Other than during periods of well workover, including maintenance, approved by the commission in which the sealed tubing-casing annulus is disassembled for maintenance or corrective procedures, the storage operator shall maintain mechanical integrity as required under 20 AAC 25.1240 of the Class VI well at all times.

(e) The storage operator shall install and use:

(1) continuous recording devices to monitor the injection pressure; the rate, volume 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

(2) alarms and automatic surface shut-off systems or, at the discretion of the commission, down-hole shut-off systems, including automatic shut-off, or check valves, for onshore wells or, other mechanical devices that provide equivalent protection; and

(3) alarms and automatic down-hole shut-off systems for wells located offshore but within territorial waters of this state, 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 or gradients specified in the storage facility permit.

(f) If a shutdown, including a down-hole or surface shutdown, is triggered or a loss of mechanical integrity is discovered, the storage operator must immediately investigate and identify as expeditiously as possible the cause of the shutoff. If, upon investigation, the well appears to be lacking mechanical integrity, or if monitoring required under (e) of this section otherwise indicates that the well may be lacking mechanical integrity, the storage operator must:

(1) immediately cease injection;

(2) take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluid into any unauthorized zone;

(3) notify the commission not more than 24 hours after making the finding that the well may be lacking mechanical integrity;

(4) restore and demonstrate mechanical integrity to the satisfaction of the commission before resuming injection; and

(5) notify the commission when the storage operator expects injection to resume.

(Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120      AS 41.06.130      AS 41.06.150

**20 AAC 25.1240. Mechanical integrity.** (a) A Class VI well has mechanical integrity if:

- (1) there is no significant leak in the casing, tubing, or packer; and
- (2) there is no significant fluid movement into underground sources of drinking

water through channels adjacent to the injection well bore.

(b) To evaluate the absence of significant leaks under (a)(1) of this section, a storage operator shall, 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 20 AAC 25.1230(e).

(c) At least once each year, the storage operator shall use one of the following methods to determine the absence of significant fluid movement under (a)(2) of this section:

- (1) an approved tracer survey such as an oxygen-activation log; or
- (2) a temperature or noise log.

(d) If required by the commission, at a frequency specified in the testing and monitoring plan required under 20 AAC 25.1250, the storage operator shall run a casing inspection log to determine the presence or absence of corrosion in the long-string casing.

(e) The commission may require any other test to evaluate mechanical integrity under (a)(1) or (a)(2) of this section. In addition, the commission may allow the use of a test to demonstrate mechanical integrity other than those listed above with the written approval of the United States Environmental Protection Agency Administrator. To obtain approval for a new mechanical integrity test, the commission will submit a written request to the administrator setting forth the proposed test and all technical data supporting its use.

(f) In conducting and evaluating the tests enumerated in this section or others to be allowed by the commission, the storage operator and the commission shall apply methods and

standards generally accepted in the industry. When a storage operator reports the results of mechanical integrity tests to the commission, the storage operator shall include a description of the test and the method used. In making its evaluation, the commission will review monitoring and other test data submitted by the storage operator since the previous evaluation.

(g) The commission may require additional or alternative tests if the results presented by the storage operator under (a) through (d) of this section are not satisfactory to the commission 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 underground sources of drinking water resulting from the injection activity as stated in (a)(1) and (2) of this section. The commission may allow the use of a test to demonstrate mechanical integrity other than those identified in this section with the written approval of the United States Environmental Protection Agency. The commission shall submit the information required for consideration by the United States Environmental Protection Agency.

(h) When the commission determines that a Class VI well lacks mechanical integrity under 20 AAC 25.1070 or this section, the commission shall give written notice of the commission's determination to the storage operator. Unless the commission requires immediate cessation, the storage operator shall cease injection into the well within 48 hours of receipt of the commission's determination. The commission may allow plugging of the well pursuant to the requirements of 20 AAC 25.1300, or require the storage operator to perform additional construction, operation, monitoring, reporting and corrective action as is necessary to prevent the movement of fluid into or between underground sources of drinking water caused by the lack of mechanical integrity. The storage operator may resume injection upon written notification from the commission that the storage operator has demonstrated mechanical integrity pursuant to this

section. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120      AS 41.06.135      AS 41.06.150  
AS 41.06.130

**20 AAC 25.1250. Testing and monitoring requirements; records of monitoring. (a)**

The storage operator shall prepare, maintain, and comply with a testing and monitoring plan to verify that the storage facility is operating as permitted under this chapter and is not endangering underground sources of drinking water. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

The storage operator shall submit the testing and monitoring plan with the permit application, for commission approval, and shall include a description of how the storage operator will meet the requirements of this section, including accessing sites for all necessary monitoring and testing during the life of the facility. Testing and monitoring associated with a storage facility must, at a minimum, include

(1) an analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;

(2) the installation and use, except during well workovers as defined in 20 AAC 25.1230(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;

(3) the corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion, which 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 20 AAC 25.1210(b) by

(A) analyzing coupons of the well construction materials placed in contact with the carbon dioxide stream;

(B) routing the carbon dioxide stream through a loop constructed with the material used in the well and inspecting the materials in the loop; or

(C) using an alternative method approved by the commission;

(4) periodic monitoring of the ground water quality and geochemical changes above the confining zone that may be a result of carbon dioxide movement through the confining zone or additional identified zones including:

(A) the location and number of monitoring wells based on specific information about the storage facility, including injection rate and volume, geology, the presence of artificial penetrations, and other factors; and

(B) the monitoring frequency and spatial distribution of monitoring wells based on baseline geochemical data that has been collected under 20 AAC 25.1080 and on any modeling results in the area of review evaluation required by 20 AAC 25.1070;

(5) a demonstration of external mechanical integrity under 20 AAC 25.1240 at least once each year until the Class VI well is plugged; and, if required by the commission, a casing inspection log pursuant to the requirements of 20 AAC 25.1240. at a frequency established in the testing and monitoring plan;

(6) a pressure fall-off test at least once every five years unless more frequent testing is required by the commission based on site-specific information;

(7) 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

(A) direct methods in the injection zone; and,

(B) indirect methods, including seismic, electrical, gravity, or electromagnetic surveys or down-hole carbon dioxide detection tools, unless the commission determines, based on site-specific geology, that such methods are not appropriate;

(8) any additional monitoring, as required by the commission, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under 20 AAC 25.1070.

(b) The commission may require surface air monitoring or soil gas monitoring to detect movement of carbon dioxide that could endanger underground sources of drinking water and to ensure that carbon dioxide does not escape from the storage facility. For the purposes of this subsection,

(1) the design of Class VI well surface air or soil gas monitoring must be based on potential risks to underground sources of drinking water within the area of review;

(2) the monitoring frequency and spatial distribution of surface air monitoring 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 under 20 AAC 25.1070.

(c) If a storage operator demonstrates to the commission that monitoring employed under 42 U.S.C 7410 and 40 C.F.R. 98.440 to 98.449, (the Clean Air Act) accomplishes the goals of (c)(1) and (2) of this section, and meets the requirements of 20 AAC 25.1610, a regulatory department that requires surface air or soil gas monitoring must approve the use of monitoring employed 40 C.F.R. 98.440 to 98.449, Subchapter C, Part 98 (definition of source category),

effective December 31, 2010, and adopted by reference. If the storage operator suggests, and the commission approves, monitoring under this subsection, the commission will include compliance under this subsection as a condition of a storage facility permit and associated Class VI well. In the materials adopted by reference in this subsection; "geological sequestration" includes "carbon storage."

(d) A storage operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under this section, operational data collected under 20 AAC 25.1250, and the most recent area of review reevaluation performed under 20 AAC 25.1070. In no case shall the storage operator review the testing and monitoring plan less often than once every five years. Based on this review, the storage operator shall submit an amended testing and monitoring plan or demonstrate to the commission that no amendment to the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan shall be approved by the commission, be incorporated into the permit, and subject to the permit modification requirements at 20 AAC 25.1410 or 20 AAC 25.1430. An amended plan or demonstrations shall be submitted to the commission:

- (1) not more than one year after an area of review reevaluation;
- (2) following any significant changes to the facility, such as the addition of monitoring wells or newly permitted injection wells within the area of review, on a schedule determined by the commission; or
- (3) when required by the commission.

(e) Records of monitoring information under this section must include

- (1) the date, exact place, and time of sampling or measurements;
- (2) the individual who performed the sampling or measurements;

- (3) the date the analyses were performed;
- (4) the individual who performed the analyses;
- (5) the analytical technique or method used; and
- (6) the result of the analyses.

(f) All samples and measurements taken for the purpose of monitoring under this section must be representative of the monitored activity.

(g) A storage operator of a Class VI well must also maintain a quality assurance and surveillance plan for all testing and monitoring requirements of this section.

(h) A storage operator shall maintain records of monitoring information under this section as required under 20 AAC 25.1610. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110 AS 41.06.130 AS 41.06.150

**20 AAC 25.1260. Emergency and remedial response.** (a) As part of a storage facility permit application under 20 AAC 25.1080, the storage operator shall provide the commission with an emergency and remedial response plan that describes actions the storage operator shall take to address movement of the injection or formation fluid that may endanger underground sources of drinking water during construction of a storage facility, including an associated Class VI well, operation of a storage facility, and the post-injection site care period under 20 AAC 25.1310. The requirement to maintain and implement an approved emergency and remedial response plan is directly enforceable regardless of whether the requirement is a condition of the storage facility permit.

(b) If the storage operator obtains evidence that the injected carbon dioxide stream and associated pressure front may endanger underground sources of drinking water, the storage

operator shall:

- (1) immediately cease injection;
- (2) take all steps reasonably necessary to identify and characterize any release;
- (3) notify the commission not more than 24 hours after discovery; and
- (4) implement the emergency and remedial response plan approved by the

commission.

(c) The commission may allow the operator to resume injection before remediation if the storage operator demonstrates to the commission that the injection operation will not endanger underground sources of drinking water.

(d) The storage operator shall periodically review the emergency and remedial response plan developed under (a) of this section. In no case shall the storage operator review the emergency and remedial response plan less often than once every five years. Based on this review, the storage operator shall submit an amended emergency and remedial response plan or demonstrate to the commission 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 commission, must be incorporated into the permit, and are subject to the permit modification requirements at 20 AAC 25.1410 or 20 AAC 25.1430, as appropriate. A storage operator shall submit an amended plan or demonstration that no amendment is needed

- (1) within one year after an area of review reevaluation under 20 AAC 25.1070;
- (2) following any significant changes to the facility, such as addition of injection or monitoring wells, on a schedule determined by the commission; or
- (3) when required by the commission.

(e) An emergency and remedial response plan and any updates shall be available to the

public at the storage operator's operational office or through the storage operator's publicly accessible web site. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.150

**20 AAC 25.1270. Injection depth waiver requirements.** (a) In seeking a waiver of the requirement to inject below the lowermost underground source of drinking water the storage operator shall submit to the commission a supplemental report concurrent with permit application under 20 AAC 25.1080. The supplemental report must include

(1) a demonstration that the injection zone is laterally continuous, is not an underground source of drinking water, and is not hydraulically connected to underground sources of drinking water; does not outcrop; has adequate injectivity, volume, and sufficient porosity to safely contain the injected carbon dioxide and formation fluid; and has appropriate geochemistry;

(2) a demonstration that the injection zone is bounded by laterally continuous, impermeable confining units above and below the injection zone adequate to prevent fluid movement and pressure buildup outside of the injection zone; and that the confining unit is free of transmissive faults and fractures; the report must further characterize the regional fracture properties and contain a demonstration that such fractures will not interfere with injection, serve as conduits, or endanger underground sources of drinking water;

(3) a demonstration, using computational modeling, that underground sources of drinking water 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 20 AAC 25.1070, and is subject to requirements under 20 AAC 25.1070(c), and periodic reevaluation, as set forth in 20 AAC 25.1070(e);

(4) a demonstration of how well design and construction, in conjunction with the waiver, will ensure isolation of the injectate in lieu of requirements under 20 AAC 25.1210(a)(1) and will meet well construction requirements under 20 AAC 25.1210;

(5) a description of how the monitoring and testing and any additional plans will be tailored to the storage facility to ensure protection of underground sources of drinking water above and below the injection zone, if a waiver is granted;

(6) information on the location of all the public water supplies affected, reasonably likely to be affected, or served by underground sources of drinking water in the area of review; and

(7) provide any other information requested by the commission that the United States Environmental Protection Agency's Regional Administrator requires to inform the Regional Administrator's decision to issue a waiver.

(b) To assist the United States Environmental Protection Agency's Regional Administrator's decision on whether to grant a waiver of the injection depth requirements, the commission will submit to the Regional Administrator, documentation of the following:

(1) an evaluation of the following information as it relates to siting, construction, and operation of a storage facility with a waiver; including

(A) the integrity of the upper and lower confining units;

(B) the suitability of the injection zone, including lateral continuity; lack of transmissive faults and fractures or knowledge of current or planned artificial penetrations into the injection zone or formations below the injection zone;

(C) the potential capacity of the geologic formation to sequester carbon dioxide, accounting for the availability of alternative injection sites;

(D) all other site characterization data, the proposed emergency and remedial response plan, and a demonstration of financial responsibility;

(E) community needs, demands, and supply from drinking water resources;

(F) planned needs, potential or future use of underground sources of drinking water and non-underground sources of drinking water in the area;

(G) planned or permitted water, hydrocarbon, or mineral resource exploitation potential of the proposed injection formation and other formation 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 formation;

(H) the proposed plan for securing alternative resources or treating an underground source of drinking water formation waters in the event of contamination related to the carbon storage injection activity; and,

(I) any other applicable considerations or information requested by the commission, and any written information submitted by the Commissioner of the Department of Environmental Conservation;

(2) a summary of the commission's consultation with the Department of Environmental Conservation and any tribe having jurisdiction over lands within the area of review of a well for which a waiver is sought;

(3) any other applicable considerations or information requested by the commission.

(c) The commission will give public notice to the persons identified in 20 AAC 25.1150(c) that a waiver application has been submitted. The notice must clearly state:

- (1) the depth of the proposed injection zone;
- (2) the location of the Class VI well;
- (3) the name and depth of all underground sources of drinking water within the area of review;
- (4) a map of the area of review; the map may be provided through an electronic link;
- (5) the names of any public water supplies affected, reasonably likely to be affected, or served by underground sources of drinking water in the area of review; and,
- (6) the results of consultation with the Department of Environmental Conservation required under paragraph (b)(2) of this section.

(d) Following public notice, the commission will provide all information received through the waiver application process to the United States Environmental Protection Agency Regional Administrator. Based on the information provided, the Regional Administrator will provide written concurrence or non-concurrence regarding the waiver issuance. If the Regional Administrator determines that additional information is required to support a decision, the commission will request that the storage facility permit applicant provide the information. The commission will publish public notice of the new information if requested by the Regional Administrator. The commission may not issue an injection depth waiver without receipt of written concurrence from the Regional Administrator.

(e) Upon receipt of a waiver, the storage operator shall comply with:

- (1) all requirements at 20 AAC 25.1070, 20 AAC 25.1200, 20 AAC 25.1230, 20 AAC 25.1240, 20 AAC 25.1610, 20 AAC 25.1300 and 20 AAC 25.1260;

(2) all requirements at 20 AAC 25.1210 with the following modified requirements;

(A) the storage operator shall ensure that a Class VI well with an injection depth waiver is constructed and completed to prevent movement of fluid into any unauthorized zones including underground sources of drinking water;

(B) the casing and cementing program shall be designed to prevent the movement of fluid into an unauthorized zone including underground sources of drinking water in lieu of the requirements of 20 AAC 25.1210;

(C) the surface casing must extend through the base of the nearest underground source of drinking water directly above the injection zone and be cemented to the surface; or, at the commission's discretion, another formation above the injection zone and below the nearest underground source of drinking water above the injection zone;

(3) all requirements at 20 AAC 25.1250, with the following modifications:

(A) the storage operator shall monitor the groundwater quality, geochemical changes, and pressure in the first underground sources of drinking water immediately above and below the injection zone; and in any other formations at the discretion of the commission;

(B) 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; and, indirect methods, e.g., seismic, electrical, gravity, or electromagnetic surveys or down-hole carbon dioxide detection tools, unless the commission determines, based on site-specific geology, that

such methods are not appropriate;

(4) all requirements under 20 AAC 25.1310 with the following modified post-injection site care monitoring requirements:

(A) the storage operator shall monitor the groundwater quality, geochemical changes and pressure in the first underground sources of drinking water immediately above and below the injection zone; and in any other formations at the discretion of the commission;

(B) 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; and indirect methods ,including, seismic, electrical, gravity, or electromagnetic surveys or down-hole carbon dioxide detection tools, unless the commission determines based on site-specific geology, that such methods are not appropriate; and

(5) any additional requirements requested by the commission designed to ensure protection of underground sources of drinking water above and below the injection zone. (Eff.

4 / 18 / 2026 , Register 258 )

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.150

**20 AAC 25.1280 Determining storage reservoir capacity.** (a) Upon application to the commission, a person may request that the commission make a determination of the storage capacity of a storage reservoir under AS 41.06.195. The commission may request information necessary to make a determination under this section.

(b) The applicant shall pay a fee for a storage capacity determination under this section

based on the commission's actual processing costs, including computer data processing costs, as determined by the commission. In determining the fee, the commission will maintain a record of all application processing costs. The commission will, as soon as practicable after receiving an application under this section, prepare and submit an estimate of the fee to the applicant. After the commission has made the storage capacity determination, the commission will send the applicant a final statement of the fee. The commission will not issue a determination on an application under this section until the applicant has paid the full fee.

(c) An applicant shall pay the fee established by the commission even if the applicant withdraws an application, or the commission denies the request to make a storage capacity determination. In the event of a withdrawal, the commission may reduce the fee amount to only costs incurred before the application is withdrawn but will include all costs actually incurred by the commission up to the point the application is withdrawn.

(d) Notwithstanding (a) of this section, the commission may on its own motion make a determination of the storage capacity of a reservoir. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110 AS 41.06.195

**20 AAC 25.1290. Fees.** The commission will require a storage operator to pay all fees required by AS 41.06 in connection with a storage facility. Those fees include

- (1) fees incurred under AS 41.06.120;
- (2) fees for each metric ton of carbon dioxide injected for carbon storage under AS 41.06.160;
- (3) the carbon storage facility injection surcharge under AS 41.06.175 and 20 AAC 25.1295;

(4) the fee for determination of storage reservoir capacity under AS 41.06.195 and 20 AAC 25.1280;

(5) other fees authorized by AS 41.06. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110 AS 41.06.160 AS 41.06.195  
AS 41.06.120 AS 41.06.175

**20 AAC 25.1295. Injection surcharge.** The commission will establish the carbon storage facility injection surcharge for each storage facility and incorporate the surcharge into a final permit issued under 20 AAC 25.1170 for the time period required by AS 41.06.175. The injection surcharge will be adjusted annually under AS 41.06.175. A surcharge adjustment does not require a storage facility permit modification. The commission will establish in the storage facility permit the date the annual surcharge is due. The commission may require quarterly installments of the injection surcharge under this section and incorporate the installment schedule into a storage facility permit. Failure to pay the surcharge is a violation of the storage facility permit obligations, and the commission may take appropriate action. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.175

**20 AAC 25.1300. Class VI well plugging.** (a) The storage operator shall, before plugging a Class VI well, flush the well with a buffer fluid, determine bottomhole reservoir pressure, and perform a final external mechanical integrity test.

(b) The storage operator shall prepare, maintain, and comply with a well plugging plan that is acceptable to the commission. The requirement to maintain and implement a commission-

approved plan is directly enforceable regardless of whether the requirement is a condition of the storage facility permit. The storage operator shall submit the well plugging plan as part of the permit application and shall include the following information:

- (1) appropriate tests or measures for determining bottomhole reservoir pressure;
- (2) appropriate testing methods to ensure external mechanical integrity as specified in 20 AAC 25.1240;
- (3) the type and number of plugs to be used;
- (4) the placement of each plug, including the elevation of the top and bottom of each plug;
- (5) the type, grade, and quantity of material to be used in plugging; the material must be compatible with the carbon dioxide stream; and
- (6) the method of placement of the plugs.

(c) The storage operator shall notify the commission in writing pursuant to 20 AAC 25.1610, at least 60 days before plugging a Class VI well, although the commission may allow for a shorter notice period. At the time of notification under this section, the storage operator shall, if any changes have been made to the original well plugging plan submitted as part of the storage facility permit application, provide the revised well plugging plan. Any amendments to the Class VI well plugging plan must be approved by the commission, must be incorporated into the storage facility permit, and are subject to the permit modification requirements at 20 AAC 25.1410 or 20 AAC 25.1430 as appropriate.

(d) Within 60 days after plugging, the storage operator shall submit, pursuant to 20 AAC 25.1610, a plugging report to the commission. The report shall be certified as accurate by the storage operator and by the person who performed the plugging operation if other than the

storage operator. The storage operator shall retain the well plugging report for not less than 10 years following project completion. Upon project completion, the storage operator shall furnish the records under this subsection to the commission. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120      AS 41.06.150      AS 41.06.170  
AS 41.06.130

**20 AAC 25.1310. Post-injection site care; site closure; monitoring timeline.** (a) A storage operator shall prepare, maintain, and comply with a plan for post-injection site care and site closure that meets the requirements of this section and is acceptable to the commission. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the storage facility permit. The storage operator shall submit the post-injection and site care and site closure plan as part of a storage facility permit application under 20 AAC 25.1080.

(b) The post-injection site care and site closure plan required under (a) of this section must include the following information:

(1) the pressure differential between pre-injection and predicted post-injection pressures in the injection zone;

(2) 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 20 AAC 25.1070(c)(1);

(3) a description of post-injection monitoring location, methods, and proposed frequency;

(4) a proposed schedule for submitting post-injection site care monitoring results

to the commission pursuant to 20 AAC 25.1610; and,

(5) the duration of the post-injection site care timeframe and, if approved by the commission under AS 41.06.170(a)(3) and this section, the demonstration of the alternative post-injection site care timeframe that ensures non-endangerment of underground sources of drinking water.

(c) A storage operator shall specify in a post-injection site care and site closure plan which wells will be plugged and which shall remain unplugged to be used as subsurface observation wells. A subsurface observation or groundwater monitoring well as approved in the plan must remain in place for continued monitoring during the closure and post closure periods.

(d) Upon cessation of injection of carbon dioxide into a storage reservoir, but before application for a certificate of completion, the storage operator shall either submit an amended post-injection site care and site closure plan or demonstrate to the commission through monitoring data and modeling results that no amendment to the plan is needed. An amendment to the post-injection site care and site closure plan must be approved by the commission and be incorporated into the storage facility permit and is subject to the permit modification requirements of 20 AAC 25.1410 or 20 AAC 25.1430, as appropriate.

(e) At any time during the life of the storage facility, a storage operator may modify and resubmit the post-injection site care and site closure plan for the commission's approval not more than 30 days after the change.

(f) Upon cessation of injection of carbon dioxide into a storage reservoir, and before a storage operator applies for a certificate of completion under 20 AAC 25.1320, the storage operator shall monitor the site to show the position of the carbon dioxide plume and pressure front and demonstrate to the commission that underground sources of drinking water are not

endangered. Following the cessation of injection, the storage operator shall continue to conduct monitoring as specified in the commission-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 commission pursuant to requirements in (h) of this section, unless the storage operator makes a demonstration under (g) of this section. A post-injection site care plan must require the storage operator to continue monitoring the storage facility until the storage facility no longer poses a danger to underground sources of drinking water and the demonstration under (g) of this section is submitted by the storage operator and approved by the commission.

(g) Notwithstanding (f) of this section, if the storage operator demonstrates to the satisfaction of the commission before 50 years after cessation of carbon dioxide injections, or prior to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the storage facility no longer poses a danger to underground sources of drinking water, the commission 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 through a certificate of completion under 20 AAC 25.1320 before the end of the 50-year period or before the end of the approved alternative timeframe, if the commission finds substantial evidence that the storage facility no longer poses a risk to underground sources of drinking water. If the commission does not approve the demonstration, the storage operator shall submit to the commission a plan to continue post-injection site care until a demonstration can be made and approved by the commission.

(h) The commission may approve, in consultation with the United States Environmental Protection Agency, an alternative post-injection site care timeframe other than the 50-year default under AS 41.06.170(a)(3), if a storage operator demonstrates during the permitting

process under 20 AAC 25.1080 that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of underground sources of drinking water. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to 20 AAC 25.1080 and 20 AAC 25.1060 and must contain substantial evidence that the storage facility will no longer pose a risk to underground sources of drinking water 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

(1) the results of computational modeling performed pursuant to delineation of the area of review under 20 AAC 25.1070;

(2) the predicted timeframe for pressure decline within the injection zone, and any other zones, such that formation fluid may not be forced into an underground source of drinking water; or the timeframe for pressure decline to pre-injection pressures;

(3) the predicted rate of carbon dioxide plume migration within the injection zone, and the predicted timeframe for the cessation of migration;

(4) 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;

(5) the predicted rate of carbon dioxide trapping in the immobile capillary phase, dissolved phase, or mineral phase;

(6) the results of laboratory analyses, research studies, or field or site-specific studies to verify the information required in (4) and (5) of this section;

(7) a characterization of the confining zone 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 fluid, movement;

(8) the presence of potential conduits for fluid movement including planned injection wells and project monitoring wells associated with the proposed storage facility or any other projects in proximity to the predicted or modeled, final extent of the carbon dioxide plume and area of elevated pressure;

(9) a description of the well construction and an assessment of the quality of plugs of all abandoned wells within the area of review;

(10) the distance between the injection zone and the nearest underground sources of drinking water above or below the injection zone; and

(11) any additional site-specific factors required by the commission.

(i) Information submitted to support the demonstration in subsection (h) must meet the following criteria:

(1) all analyses and tests performed to support the demonstration must be accurate, reproducible, and performed in accordance with the established quality assurance standards;

(2) estimation techniques must be appropriate and United States Environmental Protection Agency-certified test protocols must be used where available;

(3) 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 storage facility;

(4) predictive models must be calibrated using existing information where sufficient data are available;

(5) reasonably conservative values and modeling assumptions must be used and disclosed to the commission whenever values are estimated on the basis of known, historical information instead of site-specific measurements;

(6) an analysis must be performed to identify and assess aspects of the alternative post-injection site care timeframe demonstration that contributes significantly to uncertainty; for the purpose of this paragraph, the storage operator must conduct sensitivity analyses to determine the effect that significant uncertainty may contribute to the modeling demonstration;

(7) an approved quality assurance and quality control plan must address all aspects of the demonstration; and,

(8) any additional criteria required by the commission.

(j) Not less than 120 days before expiration of the approved monitoring period under this section, the storage operator shall either apply to the commission for an additional monitoring period, or for a certificate of completion under AS 41.06.170 and 20 AAC 25.1320. (Eff.

4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.150 AS 41.06.170

**20 AAC 25.1320. Certificate of completion; public process.** (a) After cessation of carbon dioxide injection and compliance with the post-injection site care and monitoring plan, or any amendments to the plan approved by the commission, a storage operator shall apply to the commission, in a format approved by the commission, for a certificate of completion under AS 41.06.170. If, at the time of application, any changes have been made to the original post-injection site care and site closure plan, the storage operator shall also provide the revised plan. The storage operator shall apply for a certificate of completion not less than 120 days before its

proposed final site closure date. An application under this section must demonstrate, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the storage facility does not pose a danger to underground sources of drinking water or otherwise endanger human health, human safety, or the environment.

(b) Before an authorization for a certificate of completion under AS 41.06.170 and under this section, the storage operator shall submit to the commission for review and approval a demonstration, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the storage facility does not pose a danger to human health, human safety, the environment, or underground sources of drinking water.

(c) The commission may, before or after a hearing under this section, request information from the storage operator sufficient to allow the commission to consider the factors in AS 41.06.170(b). The commission will provide public notice and a hearing to consider an application for a certificate of completion. The commission will provide notice of the hearing in the same manner as a notice under AS 31.05.050(b) and will provide notice to persons identified in AS 41.06.170(a)(2) and AS 41.06.125(b)(1) - (3). The commission will provide not less than 30 days' notice of a hearing and will provide not less than 30 days for public comment. In addition to specifying the date, time, and location of the hearing, and process to submit public comments, the notice under this section must

(1) identify the storage operator, storage facility permit, and storage facility; identification of the storage facility must include an accurate plat certified by a registered surveyor that includes the location of the Class VI well relative to permanently surveyed benchmarks; and

(2) summarize the reasons for the request.

(d) After a hearing under this section, the commission may deny or approve a request for a certificate of completion. If the commission denies the request, it will issue a decision stating the reasons for the denial, and the steps the storage operator shall take to continue monitoring the storage facility or to re-apply for a certificate of completion. To approve a request for a certificate of completion, the commission must find that all conditions of 20 AAC 25.1000 - 20 AAC 25.1320 and AS 41.06.170(b) have been met. No less than two commissioners must approve issuance of a certificate of completion. A certificate of completion must identify all actions the storage operator has taken for final site closure, including the plugging of all monitoring wells in a manner approved by the commission, which will not allow movement of injection or formation fluid that endanger underground sources of drinking water.

(e) Not more than 90 days after the commission approves a certificate of completion, the storage operator shall submit a report to the commission. The report shall be retained at a location designated by the commission for not less than 10 years. The report must include:

- (1) documentation of appropriate injection and monitoring well plugging as specified in 20 AAC 25.1300 and (d) of this section;
- (2) documentation that a survey plat has been submitted to the state recorder's office; the plat must indicate the location of the Class VI well relative to permanently surveyed benchmarks, and the storage operator shall also submit a copy of the plat to the Regional Administrator of the appropriate United States Environmental Protection Agency Regional office;
- (3) documentation of appropriate notification and information to each state, local authority and tribe authority over drilling activities to allow the state, and local authority, and tribe to impose appropriate conditions on subsequent drilling activities that may penetrate the

injection and confining zone; and

(4) records reflecting the nature, composition, and volume of the carbon dioxide stream.

(f) Each owner or operator of a Class VI well identified in the certificate of completion issued by the commission shall record, before transfer of the storage facility to the Department of Natural Resources under AS 41.06.170, 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:

(1) the fact that land has been used to sequester carbon dioxide;

(2) the name of the department 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

(3) the volume of fluid injected, the injection zone or zones into which it was injected, and the period over which injection occurred.

(g) The storage operator shall retain for 10 years following issuance of the certificate of completion, records collected during the post-injection site care period. The storage operator shall deliver the records to the Department of Natural Resources at the conclusion of the retention period, and the Department of Natural Resources will maintain the records. The commission will be notified by the Department of Natural Resources when the records are delivered to the department.

(h) A certificate of completion issued under this section does not release a storage operator from liability arising from a knowing or intentional concealment or misrepresentation of material fact related to a storage facility, including the mechanical integrity of the storage facility

or the chemical composition of carbon dioxide injected into the facility. (Eff.

4 / 18 / 2026, Register 258)

<b>Authority:</b>	AS 41.06.120	AS 41.06.135	AS 41.06.165
	AS 41.06.130	AS 41.06.150	AS 41.06.170

**20 AAC 25.1400. Transfer; storage facility permit.** (a) A storage facility permit, and an associated Class VI well permit and injection authorization, may be transferred to a new storage operator only by application by the proposed permit transferee as though that person were the original applicant for the permit, and upon approval by the commission. A permit may be transferred by the holder of the permit to a new storage operator only if

(1) the permit has been modified or revoked and reissued under 20 AAC 25.1410

or

(2) a minor modification is made under 20 AAC 25.1430 to identify the new storage operator and incorporate any other requirements necessary under federal and state laws, including 42 U.S.C. 300f-300j-27 (Safe Drinking Water Act).

(b) The commission will not approve a transfer if the storage operator is not in compliance with any term or condition of the storage facility permit to be transferred unless the storage operator agrees to bring the storage facility back into compliance with the permit.

<b>Authority:</b>	AS 41.06.120	AS 41.06.130	AS 41.06.135
-------------------	--------------	--------------	--------------

**20 AAC 25.1410. Modification, revocation and reissuance of permit.** (a) A storage facility permit may be modified, or revoked and reissued, either on a request for review by any interested person, or on the commission's initiative, for the reasons specified in this section. The

commission will review the termination of a storage facility permit under 20 AAC 25.1420 or a minor modification under 20 AAC 25.1430.

(b) On receipt of a request for review or of information, including from a storage facility inspection, from a storage operator pursuant to a requirement in a storage facility permit, or from conducting a review of the storage facility permit, the commission may determine that cause exists for modification or revocation and reissuance of a permit. The following constitute cause for modification or revocation and reissuance under this section:

- (1) an area of review reevaluation under 20 AAC 25.1070;
- (2) any amendments to the testing and monitoring plan under 20 AAC 25.1250;
- (3) any amendments to the Class VI well plugging plan under 20 AAC 25.1300;
- (4) any amendments to the post-injection site care and site closure plan under 20 AAC 25.1310;
- (5) any amendments to the emergency and remedial response plan under 20 AAC 25.1260;
- (6) a review of monitoring or testing results conducted in accordance with permit requirements;
- (7) the commission receives information that was not available at the time the permit was issued that justifies application of different permit conditions;
- (8) material and substantial alterations or additions to the permitted facility or activity after permit issuance that justifies the application of permit conditions that are different or absent in the existing permit;
- (9) the standards or regulations on which the permit was based have been changed by enactment of new or amended standards or adoption of regulations or by judicial decision

with precedential effect after the permit was issued;

(10) determination by the commission that good cause exists for modification of a compliance schedule under 20 AAC 25.1140, including an act of God, strike, flood, earthquake, or materials shortage or other event over which the storage operator has little or no control and for which there is no reasonably available remedy.

(c) If the commission determines under (b) of this section that cause exists, the commission may modify or revoke and reissue a permit, subject to the limitations of this section, and may request an updated storage facility permit application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and reissuance for a new term under 20 AAC 25.1160. If the commission finds cause does not exist under this section or 20 AAC 25.1431, the commission will not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in 20 AAC 25.1430 for minor modifications, the permit may be modified without a draft permit or public review under 20 AAC 25.1150. Otherwise, a draft permit must be prepared and the procedures in 20 AAC 25.1150 followed.

(d) If the commission determines that a request for review made under (a) of this section is not justified, the commission shall provide the person making the request a brief written response of the commission's decision. A denial of a request for modification, revocation and reissuance, or termination under 20 AAC 25.1420, are not subject to public notice, comment, or hearing.

(e) In addition to the factors set forth in (b) of this section, the commission may consider the following causes as a basis to modify or, alternatively, revoke and reissue a permit:

(1) a finding that cause exists for termination under 20 AAC 25.1420, and the

commission determines that modification or revocation and reissuance is appropriate.

(2) the commission has received notification of a proposed transfer of a storage facility permit;

(3) a determination that the waste being injected into a storage facility is a hazardous waste as defined in 20 AAC 25.1020(c), either because the definition of hazardous waste has been revised, or because a previous determination has been changed.

(f) The commission will not consider suitability of the storage facility location 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. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120      AS 41.06.130      AS 41.06.135  
AS 41.06.125

**20 AAC 25.1420. Termination of permit.** (a) The commission may, on a request for review by any interested person, or on the commission's initiative, terminate a storage facility permit during its term, or deny a permit renewal application for the following causes:

(1) noncompliance by the storage operator with any condition of the permit;

(2) the storage operator's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the storage operator's misrepresentation of any relevant facts at any time; or

(3) 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.

(b) If the commission tentatively decides to terminate a permit, the commission will issue notice of intent to terminate. A notice of intent to terminate is a type of draft permit which shall be subject to the applicable procedures in 20 AAC 25.1150. (Eff. 4 / 18 / 2020, Register 258)

**Authority:** AS 41.06.120      AS 41.06.130      AS 41.06.135  
AS 41.06.125

**20 AAC 25.1430. Minor modifications; storage facility permit.** (a) Upon agreement between a storage operator and the commission, the commission may modify a permit to make a correction or allowance for change in the permitted activity listed in this section, without an application to amend the permit. Any permit modification not processed as a minor modification under this section will be made under 20 AAC 25.1410. A minor modification under this section is allowed only to

- (1) correct a typographical error;
- (2) require more frequent monitoring or reporting by the storage operator;
- (3) 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
- (4) allow for a change in ownership or operational control of a facility where the commission determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the commission under 20 AAC 25.1400;

(5) change in the quantity or type of fluid injected which is within the capacity of the storage facility as permitted and, in the judgment of the commission, does not interfere with the operation of the facility or its ability to meet conditions described in the permit and does not change its classification;

(6) change a construction requirement approved by the commission under 20 AAC 25.1210, provided that the alteration shall comply with the requirements of 20 AAC 25.1000 - 20 AAC 25.1900;

(7) amend a Class VI well testing and monitoring plan under 20 AAC 25.1250, plugging plan under 20 AAC 25.1300, post-injection site care and site closure plan under 20 AAC 25.1310, or emergency and remedial response plan under 20 AAC 25.1260 if the modification merely clarifies or corrects the plan, as determined by the commission.

(b) Upon approval by the commission of a modification under this section, the commission will issue an amendment to the permit issued under 20 AAC 25.1170 that explains the modification made to the original permit. A modification under this section does not change the duration of the permit, or any aspect of the permit other than specifically addressed by the modification approved by the commission under this section. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.135

**20 AAC 25.1600. Confidentiality of information.** (a) Any information obtained by the commission by any rule, regulation, order or permit term or condition based on 20 AAC 25.1000 - 20 AAC 25.1900 or any investigation related to a storage facility, is public information, except as otherwise provided in the Alaska Public Records Act, AS 40.25.100 - AS 40.25.295. On

receipt of a written request, the commission will determine in writing whether records held in connection with a storage facility are subject to nondisclosure under the Alaska Public Records Act.

(b) Information obtained under (a) of this section will be made available to the United States Environmental Protection Agency upon request. If the information has been submitted to the commission under a request for nondisclosure, the commission will submit that request to the United States Environmental Protection Agency when providing the information. (Eff.

4 / 18 / 2020, Register 258)

**Authority:** AS 41.06.110 AS 41.06.130 AS 41.06.135  
AS 41.06.120

**20 AAC 25.1610. Reporting requirements; monitoring and records.** (a) A storage operator shall, at a minimum, provide the reports identified in this section to the commission and the United States Environmental Protection Agency in electronic format, for each permitted Class VI well as part of a storage facility permit. Reports required by this section, or a storage facility permit, or other information required by the commission shall be signed by a person authorized under 40 C.F.R. 144.32(b), effective January 10, 2011, and adopted by reference.

(b) A storage operator shall provide semi-annual reports, on a date established by the commission containing

(1) any changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data;

(2) the monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure;

(3) a description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;

(4) a description of any event which triggers a shut-off device required pursuant to 20 AAC 25.1230 and the response taken;

(5) the monthly volume or mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;

(6) the monthly annulus fluid volume added; and

(7) the results of monitoring prescribed under 20 AAC 25.1250.

(c) A storage operator shall report, not later than 30 days after a test under this subsection, the results of:

(1) periodic tests of mechanical integrity;

(2) any well workover; and,

(3) any other test of the Class VI well conducted by the storage operator if required by the commission.

(d) A storage operator shall report within 24 hours

(1) any evidence that the injected carbon dioxide stream or associated pressure front may endanger underground sources of drinking water;

(2) any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between underground sources of drinking water;

(3) any triggering of a shut-off system, whether down-hole or at the surface;

(4) any failure to maintain mechanical integrity under 20 AAC 25.1240; or

(5) pursuant to compliance with the requirement at 20 AAC 25.1250 for surface air and soil gas monitoring or other monitoring technologies, if required by the commission, any

release of carbon dioxide to the atmosphere or biosphere.

(e) A storage operator shall notify the commission in writing not less than 30 days in advance of

(1) any planned well workover;

(2) any planned stimulation activities, other than stimulation for formation testing conducted under 20 AAC 25.1080, and

(3) any other planned test of the Class VI well conducted by the storage operator.

(f) Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. A storage operator shall maintain records of all monitoring information including the following

(1) calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the storage facility permit, and records of all data used to complete the application for a storage facility permit for a period of at least three years from the date of the sample, measurement, report, or application; this period may be extended by request of the commission at any time; and

(2) the nature and composition of all injected fluid until not less than three years after the completion of any plugging and abandonment procedures specified under 20 AAC 25.1300; the commission may require a storage operator to deliver the records to the commission at the conclusion of the retention period.

(g) A storage operator shall retain

(1) all data collected under 20 AAC 25.1080 for a storage facility permit application throughout the life of the storage facility and for not less than 10 years following issuance of a certificate of completion under 20 AAC 25.1320;

(2) data on the nature and composition of all injected fluid collected pursuant to 20 AAC 25.1250 for not less than 10 years following issuance of a certificate of completion; the commission may require the storage operator to deliver the records to the commission or other state agency at the conclusion of the retention period;

(3) monitoring data collected pursuant to 20 AAC 25.1250 for not less than 10 years after it is collected;

(4) 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 certificate of completion report collected pursuant to requirements at 20 AAC 25.1310 for 10 years following issuance of a certificate of completion under 20 AAC 25.1320;

(5) all modeling inputs and data used to support area of review reevaluations under 20 AAC 25.1070(e).

(h) The storage operator shall deliver the records to the commission at the conclusion of the retention period, and the records will thereafter be retained at a location designated by the commission for that purpose. The commission may require the storage operator to retain any records required in this section for longer than 10 years after issuance of a certificate of completion.

(i) A storage operator shall provide access to the commission to storage facility records for a facility permitted under AS 41.06 and this chapter wherever located. All owners, operators, drilling contractors, drillers, service companies, or other persons engaged in drilling, completing, operating, or servicing a storage facility shall permit the commission, or its authorized representative, upon reasonable notice, to enter a lease, property, well, or drilling rig, in compliance with applicable state safety rules, to inspect the records and operations of wells and

to conduct sampling and testing. Unless designated as confidential under 20 AAC 25.1600, the information shall be a public record. If requested by the commission, a person shall furnish a copy of storage facility records to the commission. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.120 AS 41.06.130 AS 41.06.135

**20 AAC 25.1650. Enforcement; penalties.** A penalty or other enforcement action under 20 AAC 25.1000 - 20 AAC 25.1900 shall be governed by the process set out in 20 AAC 25.535. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110 AS 41.06.180

**20 AAC 25.1900. Definitions.** In 20 AAC 25.1000 - 20 AAC 25.1900, the following definitions apply:

(1) "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;

(2) "aquifer" has the meaning given in 20 AAC 25.990;

(3) "area of review" means the area surrounding a storage facility where underground sources of drinking water may be endangered by the injection activity; and is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and displaced fluid, and is based on available site characterization, monitoring and operational data under 20 AAC 25.1070;

(4) "carbon dioxide" has the meaning given in AS 41.06.210;

(5) "carbon dioxide plume" means the extent underground, in three dimensions of

an injected carbon dioxide stream;

(6) "carbon dioxide stream" means carbon dioxide that has been captured from an emission source, such as a power plant, plus incidental associated substances derived from source materials and the capture process, and any substances added to the stream to enable or improve the injection process; "carbon dioxide stream" does not apply to any carbon dioxide stream that meets the definition of hazardous waste under 40 C.F.R. part 261;

(7) "carbon storage" has the meaning given in AS 41.06.210; and includes "geologic sequestration," as defined in 40 C.F.R. 146.81, Part H, Applicability, effective January 10, 2011 and adopted by reference;

(8) "casing" means a pipe or tubing of appropriate material, of varying diameter and weight, which is installed into a well to maintain the structural integrity of a well, to prevent the loss of drilling mud into porous ground, or to prevent water, gas, or other fluid from entering or leaving the hole;

(9) "cementing" means the operation whereby a cement slurry is pumped into a drilled hole and forced behind the casing;

(10) "Class VI well" means a well

(A) that is not experimental in nature that is used for geologic sequestration of carbon dioxide beneath the lowermost formation containing underground sources of drinking water; for the purpose of this subparagraph, "experimental" means use of a technology that has not been proven feasible under the conditions in which it is being tested;

(B) used for geologic sequestration of carbon dioxide that has been granted a waiver of the injection depth requirements under 20 AAC 25.1270; or

(C) used for geologic sequestration of carbon dioxide that has received an expansion to the areal extent of an existing Class II well under 20 AAC 25.442

(11) "closure period" means the period from cessation of carbon dioxide injection until the commission issues a certificate of completion under AS 41.06.170 and applicable regulation;

(12) "commission" has the meaning given in 20 AAC 25.990;

(13) "confining zone" means a geological formation, group of formations, or part of a formation stratigraphically overlying the injection zone that acts as a barrier to fluid movement; for a Class VI well operating under an injection depth waiver under 20 AAC 25.1270, confining zone means a geologic formation, group of formations, or part of a formation stratigraphically overlying and underlying the injection zone;

(14) "contaminant" means any physical, chemical, biological, or radiological substance or matter in water;

(15) "corrective action" means commission-approved methods to ensure that wells within the area of review do not serve as conduits for the movement of fluid into underground sources of drinking water;

(16) "draft permit" means a document prepared under 20 AAC 25.1080 indicating the commission's tentative decision to issue or deny a storage facility permit, or modify, revoke and reissue, or terminate an existing storage facility permit; "draft permit" does not include a denial by the commission of a request for modification, revocation and reissuance, or terminate an existing storage facility permit;

(17) "enhanced oil or gas recovery" has the meaning given in AS 41.06.210;

(18) "Environmental Protection Agency" or "EPA" means the United States Environmental Protection Agency;

(19) "exempted aquifer" has the meaning given in 20 AAC 25.990;

(20) "fault" means a surface or zone of rock fracture along which there has been displacement;

(21) "fluid" means any material or substance that flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state;

(22) "flow rate" means the volume per time unit given to the flow of gases or other fluid substances which emerges from an orifice, pump, turbine or passes along a conduit or channel;

(23 "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;

(24) "formation fluid" means fluid present in a formation under natural conditions as opposed to introduced fluid, such as drilling mud;

(25) "injection zone" means a geological formation, group of formations, or part of a formation that is of sufficient areal extent, thickness, porosity, and permeability to receive carbon dioxide through a well or wells associated with a storage facility;

(26) "lithology" means the description of rocks on the basis of their physical and chemical characteristics;

(27) "mechanical integrity" means the absence of significant leakage within an injection well's tubing, casing, or packer, or outside of the casing;

(28) "operator" means the person recognized as responsible for the well, site, storage facility, or storage facility covered by 20 AAC 25.1000 - 20 AAC 25.1900, and includes the storage operator as defined in AS 41.06.210; the operator can, but need not be, the owner of the storage facility;

(29) "owner" means the person that owns the well, site, or storage facility, and includes the "storage operator" as defined in AS 41.06.210; the owner may be, but is not always, the operator of the well, site, facility, or activity governed under 20 AAC 25.1000 - 20 AAC 25.1900;

(30) "packer" means a device lowered into a well to produce a fluid tight seal;

(31) "permit" means a storage facility permit under 20 AAC 25.1170, but does not include a permit which has not yet been the subject of final commission action, such as a draft permit;

(32) "person" means an individual, association, partnership, corporation, joint venture, protected series, or other legal or commercial entity, estate, trust, trustee, receiver, executor, administrator, fiduciary, municipality, state, federal, or tribal agency, or an agency or employee thereof;

(33) "plugging" or "well 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;

(34) "pressure" means the total load or force per unit area acting on a surface;

(35) "post injection site care" means appropriate monitoring and other actions, including corrective action, needed following cessation of injection of carbon dioxide to ensure that underground sources of drinking water are not endangered, as required by 20 AAC 25.1310;

(36) "pressure front" means the zone of elevated pressure that is created by the injection of carbon dioxide into the subsurface; the pressure front of a carbon dioxide plume refers to a zone where there is a pressure differential sufficient to cause the movement of injected fluid or formation fluid into underground sources of drinking water;

(37) "site" means the land or water area where any storage facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity;

(38) "site closure" means the point or time, as determined by the commission through a certificate of completion under 20 AAC 25.1320, at which the storage operator is released from post-injection site care responsibilities;

(39) "stimulation" includes "well stimulation" and 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

- (A) surging,
- (B) jetting,
- (C) blasting,
- (D) acidizing,
- (E) hydraulic fracturing;

(40) "storage facility" has the meaning given in AS 41.06.210, and includes a "geologic sequestration project," as defined in 40 C.F.R. 146.81;

(41) "surface casing" has the meaning given in 20 AAC 25.990;

(42) "transmissive fault or fracture" means a fault or fracture that has sufficient permeability and vertical extent to allow fluid to move between formations;

(43) "tribe" or "Indian tribe" means a

(A) tribe that is recognized by the United States Secretary of the Interior to exist as an Indian tribe under 25 U.S.C. 5131 (Federally Recognized Indian Tribe List Act of 1994);

(B) includes any subdivision, subsidiary, or business enterprise wholly owned by a federally recognized tribe;

(44) "underground sources of drinking water" or "USDW" has the meaning given in 20 AAC 25.990

(45) "well" has the meaning given in AS 41.06.210, a "well" may include an injection well;

(46) "well injection" or "underground injection" means the subsurface emplacement of fluid through a well;

(47) "well monitoring" means the measurement, by on-site instruments or laboratory methods, of the quality of water in a well;

(48) "well plug" means a watertight and gastight seal installed in a borehole or well to prevent movement of fluid. (Eff. 4 / 18 / 2026, Register 258)

**Authority:** AS 41.06.110 AS 41.06.130 AS 41.06.210  
AS 41.06.120 AS 41.06.135