

OCTOBER 2022

VOL. 22-9

PRATT'S

ENERGY LAW

REPORT



LexisNexis

**EDITOR'S NOTE: CHANGE IS HAPPENING
BEFORE OUR VERY EYES**

Victoria Prussen Spears

**PIVOT POTENTIAL: A DEEP DIVE INTO
OFFSHORE WIND IN THE GULF OF MEXICO**

Daniel Hagan, R.J. Colwell and Aaron Bryant

**THE INFLATION REDUCTION ACT OF 2022:
SUMMARY OF ENERGY AND CLIMATE
PROVISIONS**

John F. Pierce, Steven R. Schneider and
Vivian L. Prieto

**ACCOUNTING FOR CHANGE: FEDERAL ENERGY
REGULATORY COMMISSION PROPOSES
ACCOUNTING AND FINANCIAL REPORTING
REFORMS TO ADDRESS RENEWABLE ENERGY
ASSETS**

Mark R. Haskell, Brett A. Snyder and
Lamiya N. Rahman

**CARBON CAPTURE, UTILIZATION, AND
STORAGE: CLASS VI WELLS AND U.S. STATE
PRIMACY**

Lauren A. Bachtel, Philip K. Lau, Eric R. Pogue,
Dale D. Smith and Nadav C. Klugman

Pratt's Energy Law Report

VOLUME 22

NUMBER 9

October 2022

Editor's Note: Change Is Happening Before Our Very Eyes Victoria Prussen Spears	305
Pivot Potential: A Deep Dive into Offshore Wind in the Gulf of Mexico Daniel Hagan, R.J. Colwell and Aaron Bryant	307
The Inflation Reduction Act of 2022: Summary of Energy and Climate Provisions John F. Pierce, Steven R. Schneider and Vivian L. Prieto	324
Accounting for Change: Federal Energy Regulatory Commission Proposes Accounting and Financial Reporting Reforms to Address Renewable Energy Assets Mark R. Haskell, Brett A. Snyder and Lamiya N. Rahman	338
Carbon Capture, Utilization, and Storage: Class VI Wells and U.S. State Primacy Lauren A. Bachtel, Philip K. Lau, Eric R. Pogue, Dale D. Smith and Nadav C. Klugman	344

QUESTIONS ABOUT THIS PUBLICATION?

For questions about the **Editorial Content** appearing in these volumes or reprint permission, please email:

Jessica Carnevale, Esq. at (212) 229-4942
Email: jessica.carnevale@lexisnexis.com
Outside the United States and Canada, please call (973) 820-2000

For assistance with replacement pages, shipments, billing or other customer service matters, please call:

Customer Services Department at (800) 833-9844
Outside the United States and Canada, please call (518) 487-3385
Fax Number (800) 828-8341
Customer Service Website <http://www.lexisnexis.com/custserv/>

For information on other Matthew Bender publications, please call

Your account manager or (800) 223-1940
Outside the United States and Canada, please call (937) 247-0293

ISBN: 978-1-6328-0836-3 (print)
ISBN: 978-1-6328-0837-0 (ebook)
ISSN: 2374-3395 (print)
ISSN: 2374-3409 (online)

Cite this publication as:

[author name], [*article title*], [vol. no.] PRATT'S ENERGY LAW REPORT [page number]
(LexisNexis A.S. Pratt);

Ian Coles, *Rare Earth Elements: Deep Sea Mining and the Law of the Sea*, 14 PRATT'S ENERGY
LAW REPORT 4 (LexisNexis A.S. Pratt)

This publication is designed to provide authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional services. If legal advice or other expert assistance is required, the services of a competent professional should be sought.

LexisNexis and the Knowledge Burst logo are registered trademarks of RELX Inc. Matthew Bender, the Matthew Bender Flame Design, and A.S. Pratt are registered trademarks of Matthew Bender Properties Inc. Copyright © 2022 Matthew Bender & Company, Inc., a member of LexisNexis. All Rights Reserved.

No copyright is claimed by LexisNexis or Matthew Bender & Company, Inc., in the text of statutes, regulations, and excerpts from court opinions quoted within this work. Permission to copy material may be licensed for a fee from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, Mass. 01923, telephone (978) 750-8400.

Editorial Office
230 Park Ave., 7th Floor, New York, NY 10169 (800) 543-6862
www.lexisnexis.com

MATTHEW  BENDER

Editor-in-Chief, Editor & Board of Editors

EDITOR-IN-CHIEF

STEVEN A. MEYEROWITZ

President, Meyerowitz Communications Inc.

EDITOR

VICTORIA PRUSSEN SPEARS

Senior Vice President, Meyerowitz Communications Inc.

BOARD OF EDITORS

SAMUEL B. BOXERMAN

Partner, Sidley Austin LLP

ANDREW CALDER

Partner, Kirkland & Ellis LLP

M. SETH GINTHER

Partner, Hirschler Fleischer, P.C.

STEPHEN J. HUMES

Partner, Holland & Knight LLP

R. TODD JOHNSON

Partner, Jones Day

BARCLAY NICHOLSON

Partner, Norton Rose Fulbright

ELAINE M. WALSH

Partner, Baker Botts L.L.P.

SEAN T. WHEELER

Partner, Kirkland & Ellis LLP

Hydraulic Fracturing Developments

ERIC ROTHENBERG

Partner, O'Melveny & Myers LLP

Pratt's Energy Law Report is published 10 times a year by Matthew Bender & Company, Inc. Copyright © 2022 Matthew Bender & Company, Inc., a member of LexisNexis. All Rights Reserved. No part of this journal may be reproduced in any form—by microfilm, xerography, or otherwise—or incorporated into any information retrieval system without the written permission of the copyright owner. For customer support, please contact LexisNexis Matthew Bender, 9443 Springboro Pike, Miamisburg, OH 45342 or call Customer Support at 1-800-833-9844. Direct any editorial inquiries and send any material for publication to Steven A. Meyerowitz, Editor-in-Chief, Meyerowitz Communications Inc., 26910 Grand Central Parkway Suite 18R, Floral Park, New York 11005, smeyerowitz@meyerowitzcommunications.com, 631.291.5541. Material for publication is welcomed—articles, decisions, or other items of interest to lawyers and law firms, in-house counsel, government lawyers, senior business executives, and anyone interested in privacy and cybersecurity related issues and legal developments. This publication is designed to be accurate and authoritative, but neither the publisher nor the authors are rendering legal, accounting, or other professional services in this publication. If legal or other expert advice is desired, retain the services of an appropriate professional. The articles and columns reflect only the present considerations and views of the authors and do not necessarily reflect those of the firms or organizations with which they are affiliated, any of the former or present clients of the authors or their firms or organizations, or the editors or publisher.

POSTMASTER: Send address changes to *Pratt's Energy Law Report*, LexisNexis Matthew Bender, 230 Park Ave. 7th Floor, New York NY 10169.

Carbon Capture, Utilization, and Storage: Class VI Wells and U.S. State Primacy

*By Lauren A. Bachtel, Philip K. Lau, Eric R. Pogue, Dale D. Smith and
Nadav C. Klugman**

The authors provide an overview of the Class VI permit application under the federal Underground Injection Control (“UIC”) program, the status of current and pending Class VI applications, and the status of state primacy for UIC programs.

Industry has recently expressed significant interest in long-term underground storage of carbon dioxide (“CO₂”) in deep subsurface geologic formations—a process that generally requires an Environmental Protection Agency (“EPA”) Class VI permit under the federal Underground Injection Control (“UIC”) program.

This article provides an overview of the Class VI permit application, the status of current and pending Class VI applications, and the status of state primacy for UIC programs.

BACKGROUND

Carbon capture, utilization, and storage (“CCUS”) will be essential in meeting the Biden administration’s net zero greenhouse gas (“GHG”) emission goals, as the chair of the White House Council on Environmental Quality (“CEO”) acknowledges that “[t]o reach the President’s ambitious domestic climate goal of net-zero emissions economy-wide by 2050, the United States will likely have to capture, transport, and permanently sequester significant quantities of carbon dioxide.”¹ Pursuant to the UIC program, EPA has promulgated regulations and established minimum federal requirements for six classes of injection wells (Class I to Class VI).

Each well class is based on the type and depth of the injection activity and the potential for the injection activity to impact underground sources of drinking water. For instance, Class II wells are used only to inject fluids

* Lauren A. Bachtel, a counsel in the New York office of Mayer Brown, is a member of the firm’s Projects & Infrastructure group. Philip K. Lau, a partner in the firm’s Houston office, is a member of the firm’s Corporate & Securities practice. Eric R. Pogue, a partner in the firm’s New York office, is a member of the firm’s Projects & Infrastructure group. Dale D. Smith, a partner in the firm’s Houston office, is a member of the firm’s Corporate & Securities and Finance & Banking practices. Nadav C. Klugman is a partner in the firm’s Banking & Finance practice in Chicago. The authors may be contacted at lbachtel@mayerbrown.com, plau@mayerbrown.com, epogue@mayerbrown.com, ddsmith@mayerbrown.com and nklugman@mayerbrown.com, respectively.

¹ 87 Fed. Reg. 8808 (Feb. 16, 2022).

associated with oil and natural gas production for purposes of either disposal, enhanced oil recovery (“EOR”), or hydrocarbon storage.

In 2010, EPA established Class VI, the most recently created UIC well class, for wells used to inject CO₂ into deep subsurface geologic formations for long-term underground storage—a process known as “geologic sequestration.” Currently, there are approximately 180,000 active Class II wells but only two active Class VI wells in the United States.

CLASS VI PERMIT APPLICATION

Both Class II and Class VI wells are utilized for the underground injection of CO₂. The purposes (and, thus, regulations) of these classes, however, are different. As much as 80 percent of active Class II wells are used for EOR, where fluids containing CO₂, among other things, are injected into oil-bearing formations to recover residual oil and natural gas.

Although some CO₂ remains underground during the EOR process, Class II wells are not intended to inject CO₂ for long-term storage.

Thus, project proponents seeking to inject CO₂ for permanent geologic sequestration must obtain a permit from EPA to drill and operate a Class VI well. A geologic sequestration project is defined by the extent of the area of review (“AoR”), which is the region surrounding the well where underground sources of drinking water may be impacted by the injection activity. A permit applicant must delineate the AoR to predict the movement of the injected CO₂ and displaced fluids using a computational model that considers the geologic conditions and proposed operations.

The permit application must present a detailed evaluation of site geology, the AoR, and how the modeling inputs reflect site-specific geologic and operational conditions, well construction design, plans to monitor the site, and other required activities. Permit applications are multifaceted and address all aspects of the geologic sequestration project to ensure that underground sources of drinking water are protected. They are comprehensive, and contain maps and cross sections, modeling results, water quality data, analyses of core samples and well logs, engineering schematics, and financial information. All of the permit application information submitted and reviewed is interrelated, and the information collected to meet one requirement may inform or be informed by other submittals or analyses.

Therefore, project proponents need to ensure that, collectively, all of the information submitted is consistent, supports a determination of site-suitability, and affords protection to underground sources of drinking water.

The core of the permit application review is an in-depth evaluation of the geologic setting and the AoR modeling, including assessing the local/regional

geology, hydrology, geochemistry, etc. This serves two purposes: (1) it confirms that the site is suitable to receive and store the CO₂, and (2) it establishes the foundation for protective permit conditions. From there, EPA assesses risks and uncertainties. Then, EPA sets appropriate operating parameters and conditions and identifies testing and monitoring needs. EPA's review of the Class VI permit application is an iterative process, which requires frequent communication between the project proponent and EPA.

STATUS OF CLASS VI PERMITS AND APPLICATIONS

Of the more than 700,000 well permits issued under the UIC program to date, only six are for Class VI wells. Unfortunately, four of those permits expired before any well construction began. But, two Class VI wells are active. Both are located at the Archer Daniel Midland's ethanol plant in Macon County, Illinois. And, for both, the time from application submission to issuance was approximately three years, though generally the entire permitting process can take up to six years. (Archer Daniels Midland CCS1: application submitted December 2011, permits effective February 2015; Archer Daniels Midland CCS2: application submitted July 2011, permits effective September 2014). As shown in the accompanying table, currently, there are 14 Class VI permit applications pending before EPA. (The table does not reflect permit applications that are pending (or have been approved) at the state level, in those states that are directly implementing the UIC program in lieu of having the EPA implement. State "primacy" is discussed in the section below.)

	State	Permitee/Applicant	Current Permit Status
1	IL	Archer Daniels Midland	Active
2	IL	Archer Daniels Midland	Active
3	IN	Wasbash Carbon Services, LLC	Pending
4	IN	Wasbash Carbon Services, LLC	Pending
5	OH	Lorain Carbon Zero Solutions, LLC	Pending
6	LA	Oxy Low Carbon Ventures, LLC	Pending
7	LA	Oxy Low Carbon Ventures, LLC	Pending
8	LA	Gulf Coast Sequestration	Pending

CLASS VI WELLS AND U.S. STATE PRIMACY

9	LA	Gulf Coast Sequestration	Pending
10	LA	Gulf Coast Sequestration	Pending
11	LA	Gulf Coast Sequestration	Pending
12	LA	Hackberry Carbon Sequestration, LLC	Pending
13	CA	Carbon TerraVault 1, LLC	Pending
14	CA	Carbon TerraVault 1, LLC	Pending
15	CA	Carbon TerraVault 1, LLC	Pending
16	CA	San Joaquin Renewables LLC	Pending

STATE PRIMACY FOR UIC PROGRAMS

EPA has developed UIC program requirements that are designed to be adopted by states, territories, and tribes. Primary enforcement authority, often called “primacy,” refers to state, territory, or tribal responsibilities associated with implementing EPA approved UIC programs. A state, territory, or tribe with UIC primacy oversees the UIC program in that state or territory or on the tribal land.

Primacy is not mandatory or vested as a matter of right; rather, states, territories, and tribes must apply for it. States, territories, and tribes may apply for and obtain primacy for all well classes, Classes 1-V, or Class VI only. EPA may grant primacy for all or part of the UIC program. This means that in some jurisdictions primacy for certain well classes may be shared with EPA or divided between different state, territory or tribal authorities. States seeking UIC program primacy must demonstrate to EPA that the state has jurisdiction over underground injection; regulations that meet the federal UIC requirements; and the necessary administrative, civil, and criminal enforcement penalty remedies.

EPA has approved UIC primacy programs for well Classes I-V in 31 states and three territories. Florida and Idaho have EPA-approved UIC primacy for well Classes I, III, IV, and V. EPA retains direct implementation authority for Class II wells in those states. Currently, EPA implements the UIC program for all well classes in nine states and two territories.

Since the inception of Class VI in 2010, states have been slow to apply for primacy. The demand for Class VI permits—particularly in the first few

years—had not been great enough to compel most states to apply. Moreover, the primacy application process can take years. Indeed, currently, only two states have primacy for Class VI wells: North Dakota and Wyoming. North Dakota applied for primacy in 2013, which EPA approved in 2018. Wyoming formally applied in 2019 and was approved in 2020, but that process was preceded by years of dialogue with EPA Region 8. North Dakota and Wyoming are also the only two states that have primacy for all well Classes I–VI.

While EPA directly implements the Class VI program in all other states, territories, and on tribal lands, demand trends are shifting and several states are moving towards primacy. Louisiana's Class VI primacy application is under review at EPA in the "completeness determination" phase of the application process. Arizona and West Virginia are listed as being in the "pre-application" phase. In June 2021, Texas took an important step towards seeking primacy by enacting H.B. 1284, which gave the state Railroad Commission sole jurisdiction over carbon sequestration wells (jurisdiction had previously been shared with the Commission on Environmental Quality). As a result, Texas's primacy application likely will be greatly simplified. On May 3, 2022, the Railroad Commission approved submittal to the EPA of a pre-application for Class VI wells and a request that the governor formally ask EPA for Class VI UIC well program approval. On August 30, 2022, the Railroad Commission voted to approve rules for the state's permitting and regulation of carbon capture and underground storage. These rules are needed for the Commission's implementation of H.B. 1284.

On October 19, 2021, North Dakota became the first state to issue a Class VI permit when it approved Red Trail Energy LLC ("RTE") to geologically store CO₂ from the RTE ethanol facility located near Richardton, ND. The state followed up with a second approval on January 21, 2022, when it issued a permit to the Minnkota Power Cooperative to permanently store CO₂ deep underground near Center, ND, for its prospective Project Tundra. Importantly, North Dakota has demonstrated the speed at which a state-run UIC program can approve a Class VI permit: the state approved Minnkota's application in eight months, whereas the federal program has taken approximately three to six years. In addition, Project Tundra received a \$100 million loan from the state.