No. 24-___

IN THE

Supreme Court of the United States

PANOCHE ENERGY CENTER, LLC,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY ET AL.,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit

PETITION FOR A WRIT OF CERTIORARI

VARU CHILAKAMARRI
Counsel of Record
ANKUR K. TOHAN
J. TIMOTHY HOBBS
SPENCER MCCANDLESS
K&L GATES LLP
1601 K Street, NW
Washington, D.C. 20006
(202) 778-9000
varu.chilakamarri@klgates.com
ankur.tohan@klgates.com
tim.hobbs@klgates.com
spencer.mccandless@klgates.com

Counsel for Petitioner

January 3, 2025

WILSON-EPES PRINTING CO., INC. – (202) 789-0096 – WASHINGTON, D.C. 20002

QUESTION PRESENTED

Petitioner Panoche Energy Center, LLC ("Panoche") manages a power plant that is critical to California's electrical grid. Panoche holds an underground injection control ("UIC") permit from the Environmental Protection Agency ("EPA" or the "Agency") that authorizes it to dispose of nonhazardous water used for cooling its plant by injecting it thousands of feet below the Earth's surface. The permit is essential to the plant's operation. Panoche has always complied with the permit's terms, and its injections have never endangered local drinking water. But when the permit came up for renewal, EPA abruptly imposed a condition requiring Panoche to install a new 3,500-foot-deep monitoring well over a mile away at a private commercial orchard that *Panoche does not own and has no right to access*.

EPA acknowledged it was compelling Panoche to acquire new property rights from a landowner who had no obligation to sell them. (The landowner has since refused to allow the well to be drilled at all, for any price.) But EPA claimed Congress empowered it to impose this unprecedented—and it turns out, impossible—permit condition through a provision of the Safe Drinking Water Act that does not even mention permittees having to drill monitoring wells anywhere.

The Question Presented is:

Does the Safe Drinking Water Act (42 U.S.C. § 300h-5) authorize EPA to compel UIC permittees to construct monitoring wells on third-party property that permitees lack rights to access without considering the feasibility and costs of such a permit condition?

PARTIES TO THE PROCEEDING BELOW AND RULE 29.6 STATEMENT

This petition seeks review of a decision by the Ninth Circuit Court of Appeals. In the Ninth Circuit and in this Court, the Petitioner is Panoche Energy Center, LLC. Respondents are the United States Environmental Protection Agency; Michael Regan, in his official capacity as Administrator of the United States Environmental Protection Agency; and Martha Guzman Aceves, in her official capacity as Regional Administrator of the United States Environmental Protection Agency, Region IX.

Pursuant to Supreme Court Rule 29.6, Petitioner Panoche Energy Center, LLC declares that it is wholly owned by its parent company, Ares Energy Investors Fund V, L.P., a private investment fund managed by affiliates of Ares Management Corporation. No publicly held corporation owns 10% or more of Panoche Energy Center, LLC stock.

RELATED PROCEEDINGS

This case arises from the following proceedings:

- *Panoche Energy Center, LLC v. U.S. Environmental Protection Agency*, No. 23-1268, 2024 WL 3043005 (9th Cir. June 18, 2024), petition for panel rehearing denied on August 8, 2024.
- *In re Panoche Energy Ctr., LLC*, 18 E.A.D. 818 (EAB 2023) (Environmental Protection Agency), final order denying review issued on May 26, 2023.

No other proceedings in state or federal trial or appellate courts, or in this Court, directly relate to this case under this Court's Rule 14.1(b)(iii).

TABLE OF CONTENTS

	Page
QUESTION PRESENTED	i
PARTIES TO THE PROCEEDING BELOW AND RULE 29.6 STATEMENT	ii
RELATED PROCEEDINGS	ii
TABLE OF AUTHORITIES	v
OPINIONS BELOW	1
JURISDICTION	1
STATUTORY PROVISIONS INVOLVED	1
STATEMENT OF THE CASE	1
I. Factual and Legal Background	6
A. Panoche safely operates a crucial piece of California's energy infrastructure without endangering local drinking water	6
B. EPA regulates underground injection wells	7
C. For over a decade, Panoche dutifully complied with all EPA regulations and permitting requirements	9
D. EPA arbitrarily orders Panoche to do the legally impossible—drill a 3,500-foot monitoring well on someone else's almond orchard	10
II. Procedural History	15

TABLE OF CONTENTS—Continued

Page

REASONS FOR GRANTING THE WRIT 17

I. Because the Ninth Circuit's Ruling Cannot be Reconciled with this Court's Intervening *Loper Bright* Decision, this Court Should Vacate the Judgment and Remand for Further Proceedings 19

II. Alternatively, the Court Should Grant the Petition and Review the Ninth Circuit's Novel Approach to EPA Permitting 21

A. The text of the SDWA requires EPA to consider property rights, costs, and feasibility when imposing monitoring requirements 21

B. The structure of the SDWA confirms EPA may not compel a permittee to utilize property rights the permittee does not possess 26

C. If Congress had intended to grant EPA such an unusual, far-reaching power, it would have been explicit—and it would not have taken EPA nearly forty years to notice 29

D. Reversal will not unduly hamper SDWA regulation 33

E. The Question Presented has significant legal and practical implications that warrant review 34

CONCLUSION 37

APPENDIX

TABLE OF AUTHORITIES

CASES Page(s)

American Textile Mfrs. Inst., Inc. v. Donovan, 452 U.S. 490 (1981) 30

Brown & Williamson Tobacco Corp., 529 U.S. 120 (2000)..... 20, 29-31

Cent. United Life Ins. Co. v. Burwell, 827 F.3d 70 (D.C. Cir. 2016)..... 18

Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984)..... 20

City of Arlington, Tex. v. F.C.C., 569 U.S. 290 (2013)..... 20

City of Carmel-By-The-Sea v. U.S. Dep't of Transp., 123 F.3d 1142 (9th Cir. 1997)..... 34

City of Oberlin v. FERC, 39 F.4th 719 (D.C. Cir. 2022) 27, 28

Clark v. Martinez, 543 U.S. 371 (2005)..... 32

Cont'l Bank v. United States, 517 F. Supp. 918 (E.D. Pa. 1981), *aff'd*, 688 F.2d 819 (3d Cir. 1982) 31, 32

E. Enterprises v. Apfel, 524 U.S. 498 (1998)..... 31

In re Panoche Energy Ctr., LLC, 18 E.A.D. 818-52 (EAB 2023) 1, 23, 24

Loper Bright Enterprises v. Raimondo, 144 S. Ct. 2244 (2024)..... 6, 19-21, 36

TABLE OF AUTHORITIES—Continued

Page(s)

Louisiana Pub. Serv. Comm'n v. F.C.C.,
476 U.S. 355 (1986)..... 1, 18

Michigan v. EPA,
576 U.S. 743 (2015)..... 22-24

Nat'l Fed'n of Indep. Bus. v. Dep't of Lab., Occupational Safety & Health Admin.,
595 U.S. 109 (2022)..... 18

Nat. Res. Def. Council v. Regan,
67 F.4th 397 (D.C. Cir. 2023) 18, 28, 29

Nixon v. Missouri Mun. League,
541 U.S. 125 (2004)..... 26, 28

Onyx Properties LLC v. Bd. of Cnty. Commissioners of Elbert Cnty.,
838 F.3d 1039 (10th Cir. 2016)..... 31

Panoche Energy Ctr., LLC v. United States Env't Prot. Agency,
No. 23-1268, 2024 WL 3043005
(9th Cir. June 18, 2024)..... 1, 16-21, 23, 26

Riverkeeper, Inc. v. U.S. E.P.A.,
475 F.3d 83 (2d Cir. 2007), *rev'd on other grounds sub nom. Entergy Corp. v. Riverkeeper, Inc.*,
556 U.S. 208 (2009)..... 2, 25, 29, 30

Ry. Labor Execs. Ass'n v. Nat'l Mediation Bd.,
29 F.3d 655 (D.C. Cir. 1994)..... 29

United States v. 92 Buena Vista Ave., Rumson, N.J.,
507 U.S. 111 (1993)..... 28

TABLE OF AUTHORITIES—Continued

Page(s)

United States v. Am. Trucking Ass'ns, 310 U.S. 534 (1940) 26

United States v. Dalton, 960 F.2d 121 (10th Cir. 1992) 31

United States v. Jin Fuey Moy, 241 U.S. 394 (1916) 31

United States v. Spingola, 464 F.2d 909 (7th Cir. 1972) 31

United States Fidelity & Guaranty Co. v. Lee, 641 F.3d 1126 (2011) 18

Util. Air Regul. Grp. v. E.P.A., 573 U.S. 302 (2014) 4, 33

W. Virginia v. Env't Prot. Agency, 597 U.S. 697 (2022) 30

Whitman v. American Trucking Ass'ns, 531 U.S. 457 (2001) 2, 20, 30

STATUTES AND REGULATIONS

5 U.S.C. § 706(2)(c) 16

15 U.S.C. § 717f(a) 5, 26

15 U.S.C. §§ 717f(c)-(e) 27

15 U.S.C. § 717f(h) 5, 27

16 U.S.C. § 1539(a)(2)(A) 33

26 U.S.C. § 103 31

28 U.S.C. § 1254(l) 1

42 U.S.C. § 300h(b)(1) 7, 18

TABLE OF AUTHORITIES—Continued

Page(s)

42 U.S.C. § 300h(d)(2) 18
42 U.S.C. § 300h-2(b)(1) 9
42 U.S.C. § 300h-2(b)(2) 9
42 U.S.C. § 300h-2(c) 9
42 U.S.C. § 300h-5 ..... 2, 4, 5, 7-9, 16, 18, 19, 21, 22, 24-26, 28-34, 36
42 U.S.C.A. § 7412(n)(1)(A) 23
33 C.F.R. § 320.4(r)(1) 33
33 C.F.R. § 325.4(a)(3) 33
40 C.F.R. pts. 144-148 8
§ 144.1(e) 7
§ 144.36(a) 10
§ 144.40(a) 9
§ 144.55 ..... 9-11, 14
§ 146.13 23
§ 146.13(a) 8
§ 146.13(b) 8, 14
§ 146.13(c) 8
§ 146.13(d) 8, 9, 14, 21-25
§ 146.5 8
§ 146.5(a)(2) 8
§ 147.251(a) 7
50 C.F.R. § 22.220 33

TABLE OF AUTHORITIES—Continued

OTHER AUTHORITIES Page(s)

53 Fed. Reg. 28118 (July 26, 1988)..... 7, 8

EPA, *UIC Permits in EPA's Pacific Southwest (Region 9)* (Dec. 12, 2024), https://www.epa.gov/uic/r9-uic-permits ... 35

PETITION FOR WRIT OF CERTIORARI

Petitioner Panoche Energy Center, LLC respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Ninth Circuit.

OPINIONS BELOW

The Ninth Circuit's memorandum opinion is unpublished and may be found at *Panoche Energy Ctr., LLC v. United States Env't Prot. Agency*, No. 23-1268, 2024 WL 3043005 (9th Cir. June 18, 2024) or in Petitioner's Appendix ("App.") at App.1a-5a.

The Environmental Appeals Board ("EAB")'s order denying review is published at *In re Panoche Energy Ctr., LLC*, 18 E.A.D. 818-52 (EAB 2023) and included at App.8a-61a.

JURISDICTION

The Ninth Circuit issued its decision on June 18, 2024, and denied a timely petition for panel rehearing on August 8, 2024. App.108a. Justice Kagan extended the deadline to petition this Court for certiorari until January 5, 2025. This Court has jurisdiction to consider this Petition for Certiorari under 28 U.S.C. §1254(1).

STATUTORY PROVISIONS INVOLVED

The full text of relevant statutes and regulations is reproduced at App.109a-121a.

STATEMENT OF THE CASE

"[A]n agency literally has no power to act… unless and until Congress confers power upon it." *Louisiana Pub. Serv. Comm'n v. F.C.C.*, 476 U.S. 355, 357 (1986). Thus, when determining whether a radical new power

falls within an agency's statutory authority, "[s]tudied silence… can be as much a prohibition as an explicit 'no.'" *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 239 (2009) (Stevens, J., dissenting) (citing *Whitman v. Am. Trucking Ass'ns, Inc.*, 531 U.S. 457, 467 (2001). The Ninth Circuit neglected these maxims in holding that a provision about groundwater monitoring in the Safe Drinking Water Act ("SDWA"[1]) unconditionally authorizes EPA to compel permittees to undertake major construction projects on private land *they do not own*.

Panoche operates a natural gas power plant near Firebaugh, California, that plays a critical role in the state's electrical infrastructure. The plant's power generation produces heat, so Panoche uses water to cool its machinery. For over sixteen years, Panoche has disposed of this nonhazardous cooling water by injecting it into several onsite wells deep beneath the Earth's surface.

Under the SDWA, EPA regulates injection wells to protect underground sources of water that are suitable for human consumption ("potable" or "drinking" water). EPA issued Panoche a Class I UIC permit in 2008, authorizing disposal of water used for cooling its plant. Permit in hand, Panoche invested significant resources to build and upgrade the facility. Panoche injects its nonhazardous wastewater thousands of feet below the nearest potable water supply, which is separated from the injection zone by two impermeable rock layers and a buffer aquifer that prevents saline fluids in the injection zone from migrating upward into

[1] This Petition refers to the Safe Drinking Water Act of 1974 and its amendments collectively as the SDWA, unless otherwise indicated.

drinking water sources. Throughout the ten-year life of Panoche's initial UIC permit, EPA never identified a permit violation or any cross-contamination linked to Panoche's wells.

When Panoche's permit came up for renewal, however, EPA suddenly speculated that Panoche's injection activities might somehow force salinated water from the injection zone to break through the seals of older, decommissioned oil and gas wells located over a mile from Panoche's facility and enter the local drinking water supply by travelling up the unused wellbores. No relevant conditions had changed since EPA granted Panoche's 2008 permit, and the Agency did not point to any evidence that such breakthroughs were a realistic possibility given that the decommissioned wells had been sealed with thousands of feet of heavy muds and cement plugs (with approval from California regulators overseeing the decommissionings). EPA accepted Panoche's modeling regarding the amounts of pressure generated by its injection activities and acknowledged that these levels should be insufficient for fluids to penetrate the mud and cement columns in the decommissioned wellbores. The Agency conceded its regulations did not require any "corrective actions" to address the decommissioned wells.

EPA nonetheless imposed an unprecedented new "monitoring requirement" in Panoche's renewed permit, ordering Panoche to drill and maintain an over half-mile-deep offsite monitoring well in the middle of an active commercial almond orchard that Panoche does not own and has no right to access. Panoche proposed alternatives, pointing out that it was impossible for it to comply with the condition without somehow convincing the orchardist to allow Panoche to uproot a

portion of its almond orchard to install and operate a monitoring well for at least ten years. But EPA refused to consider these obstacles, stating that it had no obligation to consider property rights or the feasibility or cost of compliance when exercising its discretionary authority to impose monitoring requirements.

EPA did not identify the statutory source of this purported authority when imposing the new condition, but it claimed for the first time on appeal that one provision of the SDWA—42 U.S.C. § 300h-5—empowers it to prescribe offsite monitoring requirements without regard to whether a permittee possesses the property rights needed to fulfill them. That provision—which simply directs EPA to identify new groundwater monitoring methods for early detection of leaks—makes no mention of requiring permittees to undertake monitoring measures themselves, let alone demand that they acquire new property rights to do so. No court had ever cited the provision prior to the Ninth Circuit's opinion in this case. Nor had EPA relied on the provision to unilaterally impose an offsite monitoring requirement the permittee lacks the property rights to fulfill. But nearly four decades after its enactment, EPA suddenly discovered that this seemingly innocuous provision unconditionally authorizes it to compel a permittee to undertake multi-million-dollar construction projects on other people's property, and the Ninth Circuit agreed. The third-party orchardist has since declined to sell the necessary rights to Panoche for any price, leaving Panoche with an impossible permit condition for a mission-critical permit.

"When an agency claims to discover in a long-extant statute an unheralded power to regulate," this Court "typically greet[s] its announcement with a measure

of skepticism." *Util. Air Regul. Grp. v. E.P.A.*, 573 U.S. 302, 324 (2014). If Congress had intended for EPA to order permittees to drill monitoring wells on property they do not own or control, it would have said so—or at very least provided a mechanism by which permittees could accomplish such directives. *Compare* 42 U.S.C. § 300h-5 *with* 15 U.S.C. § 717f(a), (h) (authorizing the Federal Energy Regulatory Commission ("FERC") to allow natural gas companies to exercise eminent domain, including to comply with agency orders to construct facilities).

Congress did not include such features in the SDWA. But the Ninth Circuit held that the statute nevertheless confers unfettered authority to require the use of other people's property *sub silentio* simply because it does not expressly forbid it. The ruling expands federal administrative power in a way that will not only lead to absurd results, but also threaten complex infrastructure and industrial systems across the country. The decision has already foisted upon Panoche the dilemma of shutting down a critical piece of California's electrical infrastructure, compromising the stability of an electrical grid serving nearly 40 million people, or risking severe legal penalties by operating the facility in violation of its permit.

In upholding this novel offsite monitoring requirement, the Ninth Circuit effectively held that an agency may compel permittees to acquire new rights to specific real property, without regard to feasibility or cost, as long as it furthers some broad statutory goal and Congress has not explicitly forbidden it. No coherent limiting principle restricts this reasoning to 42 U.S.C. § 300h-5. The Ninth Circuit's decision bestows a power on federal agencies that is extraordinarily broad and ripe for abuse.

This Court should grant the petition, vacate the Ninth Circuit's judgment, and remand for reconsideration in light of *Loper Bright Enterprises v. Raimondo*, 144 S. Ct. 2244 (2024). Alternatively, the Court should grant certiorari to review the important question presented by the Ninth Circuit's decision, which has significant implications for a broad range of federal permittees and the scope of administrative authority in the post-*Loper-Bright* legal landscape.

I. Factual and Legal Background

A. Panoche safely operates a crucial piece of California's energy infrastructure without endangering local drinking water.

Panoche operates a 417-megawatt, simple-cycle "peaker" power generation plant located near Firebaugh, California. 1-ER-52, 2-ER-152.[2] Panoche's plant is critical infrastructure for California. Because the plant can reach full operational load in under ten minutes, it provides on-demand energy to the state's electrical grid, increasing the grid's stability and ability to meet demand during peak hours when solar, wind, or other energy sources become unavailable. 2-ER-155-56; 8-ER-2118-20. Panoche also plays a significant role in supporting California's electrical needs as the state transitions to renewable energy sources. 8-ER-2118.

When Panoche generates electricity, it uses water to cool its equipment. 1-ER-41. This generates heated, but nonhazardous, wastewater. *Id*. Panoche disposes of this wastewater by injecting it into four on-site

[2] "ER" citations refer to the Excerpts of Record filed in the Ninth Circuit.

underground wells. Panoche injects the wastewater at depths ranging from 7,199 to 8,897 feet beneath the Earth's surface—over a half mile below the strata holding the area's drinking water supply, which stretch from the surface down to approximately 4,000 feet. 1-ER-41; 2-ER-354; 5-ER-1073; 5-ER-1165. Panoche's injection zone is also separated from underground sources of drinking water by two confining layers of impermeable rock (one 1,148 and the other 308 feet thick), which are in turn separated by a sandstone "buffer aquifer." 1-ER-41; 5-ER-1171-72; 5-ER-1272-76. This buffer aquifer has the capacity to "bleed off" any fluid movement from lower layers, dispersing the liquid throughout the porous sandstone before enough pressure builds to penetrate the upper confining layer. These conditions ensure that Panoche's injection activities will not cause the migration of fluids from the injection zone into underground drinking water sources. *See* 53 Fed. Reg. 28118, 28133 (July 26, 1988) ("[A] 'buffer' aquifer/aquiclude system… between the confining zone and the base of the lowermost" drinking water is an "[a]dditional [s]afeguard" to prevent fluid movement).

B. EPA regulates underground injection wells.

Through the SDWA, Congress tasked EPA with administering an "underground injection control program" to ensure that injection activities do not endanger underground sources of drinking water.[3] *See* 42 U.S.C. § 300h(b)(1). Pursuant to this authority,

[3] States may implement their own UIC programs with federal approval, but EPA administers the program in states like California that are not authorized to administer their own. *See* 40 C.F.R. §§ 144.1(e), 147.251(a).

EPA classified injection wells into six categories depending on factors such as location, depth, and type of material injected. 40 C.F.R. § 146.5. To inject fluids underground, an entity must obtain an appropriate UIC permit from EPA that corresponds with the type of well it wishes to operate. *See id.* pts. 144-148. Panoche's wells are Class I injection wells—the category covering most injections occurring "beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water" regardless of whether the injected material is hazardous or nonhazardous. *Id.* § 146.5(a)(2).

In 1986, Congress enacted 42 U.S.C. § 300h-5, which directed EPA to modify its Class I regulations to "identify [new] monitoring methods… including groundwater monitoring" and then "determine the applicability of such monitoring methods, *wherever appropriate*, at locations and in such a manner as to provide the earliest possible detection of fluid migration into, or in the direction of, underground sources of drinking water." (emphasis added). Under 40 C.F.R. § 146.13(a)-(c), Class I UIC permits were already required to include minimum operating, monitoring, and reporting requirements to ensure injection activities do not cause fluids to migrate into underground sources of drinking water. Although 42 U.S.C. § 300h-5 does not mention permittees, EPA responded by adding a new subsection (d) to § 146.13 that states EPA "shall require the owner or operator"—i.e., the UIC permittee—"to develop a monitoring program" "[b]ased on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement." 53 Fed. Reg. 28118, 28144 (July 26, 1988). The regulation identified one new mandatory monitoring method that the permittee must utilize—

an annual shutdown of the well to review "the pressure buildup in the injection zone"—and five additional discretionary methods EPA may require the permittee to employ. 40 C.F.R. § 146.13(d).

Finally, under 40 C.F.R. § 144.55, a Class I permit applicant must submit a plan for "corrective action" if the review area contains other "improperly sealed" wells that penetrate the injection zone. The plan must outline steps to prevent fluid from migrating through these wells into drinking water sources, and if EPA finds the plan adequate, it becomes a condition of the permit. If not, EPA may require revisions, prescribe its own corrective actions, or deny the application. *Id.*

The SDWA grants EPA significant enforcement authority to punish violations of UIC permit conditions. In addition to modifying or terminating the permit, *id.* § 144.40(a), the Agency can impose administrative penalties of up to $10,000 for each day of violation (adjusted for inflation), or it can bring a civil action with penalties up to $25,000 a day. 42 U.S.C. § 300h-2(b)(1), (c). For "willful" violations, the permittee can be imprisoned for up to three years. *Id.* § 300h-2(b)(2)

C. For over a decade, Panoche dutifully complied with all EPA regulations and permitting requirements.

In 2008, EPA issued a Class I UIC permit to Panoche that authorized the plant to operate up to six onsite injection wells to dispose of its nonhazardous wastewater (the "2008 Permit"). 1-ER-10. EPA did not identify any improperly sealed wells in Panoche's review area, so the 2008 Permit did not include any "corrective action" requirements under 40 C.F.R.

§ 144.55. Panoche completed construction of four onsite injection wells in 2009. 1-ER-52.

For more than 14 years, Panoche operated these injection wells without issue and in full compliance with the 2008 Permit and its monitoring requirements. 1-ER-13; 1-ER-43; 1-ER-57. Throughout the life of the 2008 Permit, EPA never detected any fluid migration from Panoche's injection activities, never issued any permit violations or undertook any enforcement action, never modified or terminated the 2008 Permit, and never required Panoche to undertake any type of corrective action. 1-ER-43; 1-ER-57; 3-ER-613-14.

In late 2015, Panoche voluntarily invested millions of dollars for a system that reduced its wastewater volumes by up to 80%, further reducing the risk of adverse environmental impact. 1-ER-13 at n.4; 1-ER-139; 2-ER-198; 2-ER-202-05; 3-ER-621. Panoche has since maintained those reduced injection volumes—and the reduced risk to the environment. *See* 3-ER-621; 8-ER-2151.

D. EPA arbitrarily orders Panoche to do the legally impossible: drill a 3,500-foot monitoring well on someone else's almond orchard.

Panoche's 2008 Permit was scheduled to expire in 2018. 40 C.F.R. § 144.36(a). In October 2017, Panoche submitted a renewal application to EPA.[4] 1-ER-41. Over the following years, Panoche regularly communicated with EPA officials and diligently supplemented its submissions as requested. 2-ER-259; 3-ER-610-20.

---

[4] The renewal application administratively extended the term of the 2008 Permit until EPA's final renewal decision.

In July 2020, EPA shared an early draft of the renewed permit. 2-ER-234. Although EPA regulations condition the Agency's authority to require "corrective action" on EPA identifying improperly sealed wells in the permit applicant's review area, 40 C.F.R. § 144.55, and although California regulators had certified that each decommissioned well near Panoche had been properly sealed, 2-ER-273-74; 2-ER-282; 8-ER-2089-95, EPA's draft permit included two corrective action requirements. 2-ER-234.

First, EPA proposed that Panoche go onto property it does not own or control, locate an already-plugged decommissioned well, reenter it, and install a new cement plug deep in the wellbore. 2-ER-234-35.

Second, EPA proposed that Panoche drill and operate two separate ambient monitoring wells—again on property Panoche does not own and cannot access without third-party authorization—near two other decommissioned wells, including the Silver Creek 18 Well at issue here. 2-ER-235-36. To be clear, Panoche did not drill any of the decommissioned wells; has never owned, operated, or used them; and has no business relationship with their owners. *Id.*; 3-ER-612; 5-ER-1211; 5-ER-1219-21. Moreover, each of the decommissioned wells is located over a mile from Panoche's plant, with the Silver Creek 18 Well lying 1.25 miles away in what is now a privately-owned commercial almond orchard. 1-ER-23; 5-ER-1220; 8-ER-2129.

EPA claimed these corrective actions were necessary because Panoche's injection zone is "over-pressurized," though the Agency acknowledged this had been the zone's "native state" since before EPA issued the 2008 Permit and was not the result of Panoche's activities. 3-ER-621; 5-ER-1182. The Agency

did not claim that Panoche's injection activities were endangering the region's underground drinking water, nor that water quality had deteriorated since Panoche began operating its injection wells. *See* 1-ER-29 n.17; 3-ER-611-12. Nor did EPA identify any evidence that decommissioned wells in the region were leaking.[5] 2-ER-273-74; 2-ER-282; 8-ER-2089-95.

In response to EPA's draft permit, Panoche presented additional evidence demonstrating that its injection activities could not endanger underground drinking water, including academic studies, geological evidence, and quantitative analyses showing the two confining layers and intermediate buffer aquifer prevented pressure from ever building to sufficient levels for fluids to penetrate the thousands of feet of heavy mud and cement filling the decommissioned wells. 2-ER-290-347, 1-ER-41; 5-ER-1171-72; 5-ER-1272-76**.** These geologic features are demonstrated in the following diagram:

[5] EPA would later assert it "need not provide empirical data or direct evidence… to demonstrate that ambient monitoring is necessary," claiming it was enough "that the monitoring program will provide meaningful data concerning whether there is [any] potential for fluid movement[.]" 3-ER-611.

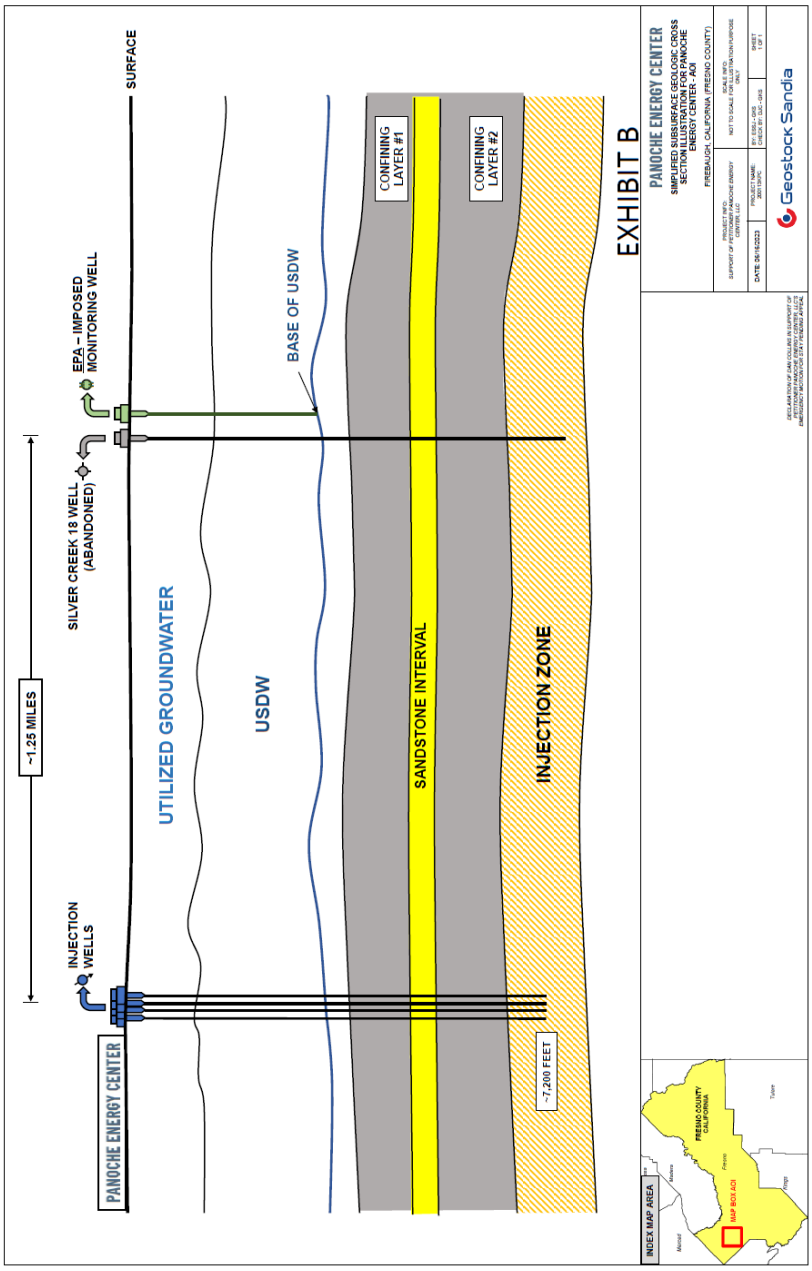
EXHIBIT B
PANOCHE ENERGY CENTER
SIMPLIFIED SUBSURFACE GEOLOGIC CROSS SECTION ILLUSTRATION - PANOCHE ENERGY CENTER - AOI
FIREBAUGH, CALIFORNIA (FRESNO COUNTY)
SURFACE
~1.25 MILES
INJECTION WELLS
SILVER CREEK 18 WELL (ABANDONED)
EPA – IMPOSED MONITORING WELL
PANOCHE ENERGY CENTER
UTILIZED GROUNDWATER
USDW
BASE OF USDW
CONFINING LAYER #1
SANDSTONE INTERVAL
CONFINING LAYER #2
INJECTION ZONE
~7,200 FEET
INDEX MAP AREA
FRESNO COUNTY CALIFORNIA
MAP BOX AOI
Geostock Sandia

See also 1-ER-41; 4-ER-808; 5-ER-1171-72; 5-ER-1272-76.

EPA published a revised draft of Panoche's permit for public comment in April 2021. 3-ER-634. Citing the reduced injection volumes from Panoche's enhanced wastewater system, EPA nominally removed all 40 C.F.R. § 144.55 "corrective action" requirements from the revised draft permit. *See id*.; 3-ER-614-16. But the April 2021 draft re-imposed one of the very same conditions as a "monitoring requirement," still directing Panoche to install a monitoring well at Silver Creek 18. EPA denied it was "recasting a corrective action requirement as a monitoring requirement," but it nonetheless relied on the fact that "under 40 C.F.R. §§ 146.13(b)&(d), EPA does not need to demonstrate that a well is improperly plugged and abandoned as a condition precedent to requiring additional monitoring," as it would for corrective action under 40 C.F.R. § 144.55. 3-ER-613-14, 3-ER-616; 1-ER-13-14; 3-ER-634; 3-ER-642-43.

EPA failed to address the buffer aquifer's capacity to disperse fluid pressure long before it ever reached the drinking water supply. 2-ER-221, 3-ER-609-23. And the Agency's only argument for the inadequacy of the 2008 Permit's existing onsite monitoring requirements—which could already detect if underground pressure increased levels sufficient to penetrate the heavy mud column filling the Silver Creek 18 Well—was that EPA did not trust the *over twenty* scientific studies Panoche had provided regarding the long-term strength of muds sealing decommissioned wells. 3-ER-611, 3-ER-616-19. But most importantly, the "monitoring requirement" retained the same flaw as the "corrective actions": it required Panoche to install a monitoring well on property Panoche does not

own or have rights to access, with EPA expressly refusing to consider the costs or feasibility. 3-ER-642-43; 2-ER-354, 2-ER-318-20; 5-ER-1211.

In a last-ditch effort at compromise, Panoche responded to the revised draft by proposing at least three alternatives to the offsite monitoring well that—unlike EPA's condition—Panoche could legally fulfill.[6] EPA rejected all three proposals, 8-ER-2155, and on September 30, 2022, the Agency issued a final permit that included the offsite monitoring condition (the "Permit"). *See* 1-ER-49; 1-ER-53, 1-ER-65-71.

II. Procedural History

Panoche sought review from the EAB, arguing among other things that EPA lacked unfettered authority to require Panoche to install a monitoring well on land it had no right to access. On May 26, 2023, the EAB denied Panoche's petition for review. 1-ER-4. The EAB ruled that "issues of property rights and access, as well as cost, are beyond the scope of the UIC program," and EPA "is not required to take ownership of the land into account before issuing a final UIC permit decision." 1-ER-37-38. On June 7, 2023, EPA issued the Notice of Final Permit Decision. 1-ER-3.

---

[6] These included monitoring or reviewing data at an existing offsite well that Panoche could legally access, 2-ER-266-67; 8-ER-2109; identifying an alternative location where Panoche could legally establish the monitoring well, 8-ER-2155; 3-ER-613; and limiting Panoche's injection rates even further beyond the low levels already achieved by Panoche's enhanced wastewater system, 9-ER-2263.

On June 23, 2023, Panoche filed a petition for review in the Ninth Circuit.[7] Panoche argued that the court should vacate EPA's permit decision under the Administrative Procedure Act, 5 U.S.C. § 706(2)(c), because the Agency lacked statutory authority to impose monitoring conditions that were impossible for Panoche to fulfill without property rights Panoche does not possess and might not be able to obtain. App.2a. Panoche alternatively contended that EPA was statutorily required to consider the cost and practicality of Panoche acquiring the necessary rights. App.3a-4a. In response, EPA for the first time argued that Congress had authorized it to order permittees to utilize other people's private property without regard to costs or feasibility through 42 U.S.C. § 300h-5—the 1986 monitoring provision directing EPA to identify new groundwater monitoring techniques and determine their appropriate applicability. App.2a.

On June 18, 2024, the Ninth Circuit issued a memorandum opinion denying review. The court ruled that the offsite monitoring requirement fell "within EPA's broad statutory discretion to prevent the potential endangerment of drinking water by underground injection." *Id.* The court stated that 42 U.S.C. § 300h-5 mandates that EPA require monitoring "at locations and in such a manner as to provide the earliest possible detection of fluid migration" and "does not require EPA to consider property ownership before determining where to require monitoring." *Id.* And the court ruled that, even assuming EPA was required to consider costs, it sufficiently fulfilled that duty by comparing the cost of monitoring to the value

[7] The conditions were stayed during this appeal—first by operation of EPA regulations, then by the Ninth Circuit's order—allowing Panoche to continue operating its power plant.

of the data that could be obtained and by requiring offsite monitoring at one remote site rather than the original three. *Id.*

On August 2, 2024, Panoche petitioned for panel rehearing, which the Ninth Circuit denied on August 8, 2024, without requesting a response. App.108a.

On August 14, 2024, Panoche moved to stay the Ninth Circuit's mandate. Through briefing and supporting declarations, Panoche informed the court that the owner of the almond orchard had refused to allow Panoche to construct the well for any price, confirming beyond all doubt that EPA's condition was legally impossible for Panoche to fulfill. Nonetheless, EPA refused to stay the condition. On October 7, the Ninth Circuit denied Panoche's motion and the mandate took effect.

Thereafter, Panoche's UIC permit was fully effective, but Panoche could neither comply with the permit's offsite monitoring condition nor cease its injection activities, which would require shutting down its critical infrastructure powerplant. On November 21, EPA voluntarily entered a 120-day administrative stay of the offsite monitoring condition to facilitate settlement negotiations. But the condition will become effective once more when the stay expires if Panoche and the EPA are unable to reach agreement.

REASONS FOR GRANTING THE WRIT

By ratifying EPA's unqualified power to impose permitting conditions that are legally impossible for a permittee to fulfill without acquiring new rights to specific real property, the Ninth Circuit decided an important question of federal law in a manner that conflicts with this Court's precedents and warrants further review.

Administrative agencies are "creatures of statute, bound to the confines of the statute that created them." *United States Fidelity & Guaranty Co. v. Lee*, 641 F.3d 1126, 1135 (2011); *accord Nat'l Fed'n of Indep. Bus. v. Dep't of Lab., Occupational Safety & Health Admin.*, 595 U.S. 109, 117 (2022). "[A]n agency literally has no power to act… unless and until Congress confers power upon it." *Louisiana Pub. Serv. Comm'n v. F.C.C.*, 476 U.S. 355, 357 (1986). And because "[a]gencies may act only when and how Congress lets them," *Cent. United Life Ins. Co. v. Burwell*, 827 F.3d 70, 73 (D.C. Cir. 2016), the question is not—as the Ninth Circuit asked below—whether the SDWA *precludes* EPA from imposing the permitting requirements at issue. The question is whether Congress intended to *grant* EPA the unqualified power to compel permittees to utilize real property rights they do not own for monitoring purposes. *See Nat. Res. Def. Council v. Regan ("NRDC"), 67 F.4th 397, 401 (D.C. Cir. 2023).* ("EPA… has no inherent authority. It has only the authority given it by the Safe Drinking Water Act.").

The Ninth Circuit claimed to find such a grant in 42 U.S.C. § 300h-5,[8] stating that the provision provides "broad statutory discretion to prevent the potential endangerment of drinking water by underground injection." App.2a. The court reasoned that the

[8] The Ninth Circuit also cited 42 U.S.C. § 300h(b)(1) and (d)(2), but these provisions concern only the minimum requirements for the UIC regulations EPA enacts. They state simply that the regulations "shall include inspection, monitoring, recordkeeping, and reporting requirements" without specifying the substance of the requirements or when and how they should be applied. And—like 42 U.S.C. § 300h-5—the provisions do not mention property rights or offsite monitoring.

statute's text "mandates that EPA require monitoring" "at locations and in such a manner as to provide the earliest possible detection of fluid migration" without "requir[ing] EPA to consider property ownership before determining where to require monitoring." *Id.* The court further stated that "nothing [else] in the language or structure of the" SDWA limits this "broad grant of authority to EPA." App.3a.

The Ninth Circuit was incorrect on all counts. The text and structure of the SDWA clearly indicates EPA is not authorized to mandate that permittees utilize property they lack any right to use, and multiple other considerations would still weigh heavily against such an interpretation even if the statute were silent on the matter.

I. Because the Ninth Circuit's Ruling Cannot be Reconciled with this Court's Intervening *Loper Bright* Decision, this Court Should Vacate the Judgment and Remand for Further Proceedings.

The Ninth Circuit's ruling hinged on a now-defunct approach to construing congressional delegations of authority, wherein the court presumed from statutory silence that Congress unconditionally authorized the EPA to order any type of monitoring, regardless of the practical consequences and risks. *See* App.3a ("Panoche argues that because the Act does not expressly authorize offsite monitoring, the EPA must lack the authority to require it. However, Panoche identifies nothing in the language or structure of the statute limiting the broad grant of authority to the EPA."). *Loper Bright Enterprises v. Raimondo*, 144 S. Ct. 2244 (2024)—which this Court issued ten days after the Court of Appeals' decision—definitively ended the blanket presumption of agency authority,

and with it, the basis for the Ninth Circuit's broad statutory holding.

Under this Court's now-overruled *Chevron* precedent,[9] courts were generally obliged to defer to an agency when the relevant statute was silent or ambiguous as to whether a matter was within the agency's power. *City of Arlington, Tex. v. F.C.C.*, 569 U.S. 290, 296 (2013) (holding *Chevron* required deference "to an agency's interpretation of a statutory ambiguity that concerns the scope of the agency's statutory authority" (citing *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984)). This deference was predicated on the fiction that, when a statute is silent or ambiguous on a question, Congress intends for the agency administering the statute to answer that question for itself. *Loper Bright*, 144 S. Ct. at 2265 (citing *Chevron.*, 467 U.S. at 843). Stated differently, *Chevron* assumed that "statutory gaps" are implicit delegations of agency authority to interpret the statute. *Id.*

Loper Bright recognized that statutory silence or "ambiguity is simply not a delegation of law-interpreting power." *Id.* (citation omitted). Such gaps are often unintentional on Congress's part, and "statutes, no matter how impenetrable, do—in fact, must—have a single, best meaning" that it is the power and duty of *courts* to determine, not agencies. *Id.* at 2266. "That is no less true when the ambiguity is about the

---

[9] Although the Ninth Circuit did not expressly invoke *Chevron*, it was duty-bound to follow it, and it ruled that two cases establishing exceptions to the now-defunct framework did not apply, suggesting by negative implication it was applying the precedent. *See* App.3a (citing *FDA v. Brown & Williamson Tobacco Corp*., 529 U.S. 120, 159 (2000) and *Whitman,* 529 U.S. at 159).

scope of an agency's own power—perhaps the occasion on which abdication in favor of the agency is *least* appropriate" *Id.* (emphasis in original).

In construing the SDWA, the Ninth Circuit was wrong to place the onus on Panoche to "identif[y]" limitations in the "language or structure of the statute," and to otherwise presume a broad grant of agency authority as the baseline. App.3a. This Court should therefore "GVR"—grant this petition, vacate the Court of Appeals' decision, and remand for reconsideration—as it has done with several other petitions since *Loper Bright*. Otherwise, the Court should grant the petition and resolve the question presented as argued below.

II. Alternatively, the Court Should Grant the Petition and Review the Ninth Circuit's Novel Approach to EPA Permitting.

A. The text of the SDWA requires EPA to consider property rights, costs, and feasibility when imposing monitoring requirements.

The Ninth Circuit held that 42 U.S.C. § 300h-5 authorized EPA to impose the offsite monitoring condition, reasoning that nothing in the statute or the rest of the SDWA indicates that EPA must consider the scope of a permittee's property rights when deciding whether and where to require ambient monitoring. In doing so, the court disregarded 42 U.S.C. § 300h-5's plain language.

As discussed, Section 300h-5's text first directed EPA to modify its regulations for Class I injection wells to "identify [new] monitoring methods[.]" 42 U.S.C. § 300h-5. EPA responded by promulgating 40 C.F.R. § 146.13(d), which identifies one mandatory

and five discretionary monitoring methods EPA may require of a permittee "[b]ased on a site-specific assessment." 40 C.F.R. § 146.13(d).

Section 300h-5 then provides that, "in accordance with such regulations," EPA

> shall determine the applicability of [the regulatorily identified] monitoring methods, *wherever appropriate*, at locations and in such a manner as to provide the earliest possible detection of fluid migration into, or in the direction of, underground sources of drinking water from such wells, based on its assessment of the potential for fluid migration from the injection zone that may be harmful to human health or the environment.

42 U.S.C. § 300h-5 (emphasis added).

The text contains multiple indications that EPA must consider a permittee's property rights (and related costs) and may not order a permittee to conduct monitoring the permittee lacks the right to perform. First, Congress instructed EPA to apply the monitoring methods that EPA identified only "wherever appropriate." *Id.* "'[A]ppropriate' is the classic broad and all-encompassing term that naturally and traditionally includes consideration of all relevant factors." *Michigan v. EPA,* 576 U.S. 743, 752 (2015). Section 300h-5 thus explicitly directs EPA to consider all factors bearing on whether the identified monitoring methods are suitable for a given location.

When it promulgated 40 C.F.R. § 146.13(d), EPA chose to place the onus on UIC permittees for each of the ambient monitoring methods the Agency identified. Consequently, any costs or obstacles to the permittee's employing the selected monitoring method

are highly "relevant factors" bearing on whether the method is "appropriate" for that "location." *Id.* This Court has already ruled as much in *Michigan v. EPA,* where it considered a provision of the Clean Air Act that "directs the Agency to regulate power plants if it 'finds such regulation is appropriate and necessary.'" 576 U.S. at 751 (quoting 42 U.S.C.A. § 7412(n)(1)(A)). Like here, EPA claimed it had no statutory obligation to consider the cost of compliance when determining whether regulation was "appropriate and necessary," and, like here, the Agency explicitly refused to do so. *Id.* This Court rejected EPA's construction, ruling that the Agency had "strayed far beyond" "the bounds of reasonable interpretation" by construing the statute to allow it to "ignore" such a highly relevant factor; "[r]ead naturally in the present context, the phrase 'appropriate and necessary' *requires* at least some attention to cost." *Id.* at 752 (emphasis added). The Court further explained that the "costs" EPA was obliged to consider include "more than the expense of complying with regulations; any disadvantage could be termed a cost." *Id.*

The same is true here. EPA decided it was "appropriate" for Panoche to perform monitoring on someone else's property while expressly refusing to consider the cost of compliance, including the implications of the property owner's functional monopoly on the rights Panoche would need to fulfill the Agency's order.[10] App.59a. Worse still, the Agency refused to

[10] The Ninth Circuit claimed EPA had sufficiently considered costs by stating "monitoring is not particularly expensive when compared to the information received." App.4a. But EPA was not addressing the offsite monitoring requirement. It was summarizing the 40 C.F.R. § 146.13 preamble to explain why it believed "consideration of cost is not… a consideration in setting permit conditions." 3-ER-615. The court also cited EPA's reduction of

consider whether Panoche could legally or practically perform the ordered monitoring at all. *Id.* ("[I]ssues of property rights and access, as well as cost, are beyond the scope of the UIC program."). As in *Michigan*, EPA's approach is not "even rational, never mind 'appropriate.'"[11] 576 U.S. at 752.

The Ninth Circuit and EPA made much of the fact that 42 U.S.C. § 300h-5 does not expressly mention any obligation for EPA to consider a permittee's property rights. But nothing in the statute's text required EPA to make UIC permittees responsible for the new monitoring techniques in the first place. EPA could have identified methods that involved direct monitoring by the Agency, analysis of data collected by third parties, or any number of other monitoring techniques that did not place the burden of monitoring on the permittee. It is thus unsurprising that 42 U.S.C. § 300h-5 includes a general directive that EPA consider all pertinent factors to determine whether the identified methods are "appropriate" for a location rather than any specific instruction to consider a permittee's property rights.

Second, 42 U.S.C. § 300h-5's text also directs EPA to "determine the applicability" of the 40 C.F.R. § 146.13(d) monitoring methods "at locations and in such a manner as to provide the earliest possible

---

three required offsite wells to one. EPA removed the corrective actions because there was no basis for them, not due to their cost. 3-ER-613, 616. Moreover, any cursory consideration of expense would be woefully incomplete where EPA expressly refused "to take ownership of land into account." 3-ER-612.

[11] To be clear, nothing prevents EPA from working with permittees or landowners to ensure the permittee has or can obtain necessary rights *prior* to issuing a final legally binding UIC permit that requires offsite monitoring. *See infra* § II.D.

detection of fluid migration." EPA contends this phrase authorizes it to require monitoring at any location it chooses regardless of property rights, guided only by its assessment of where *anyone* could first detect fluid migration. But the monitoring methods EPA identified in 40 C.F.R. § 146.13(d) do not involve monitoring by just anyone. They require monitoring *by the permittee*, so to apply them "at locations and in such a manner as to provide the earliest possible detection of fluid migration," the EPA inherently must evaluate where and how the *permittee* could first detect fluid migration through the identified means. By its very nature, that assessment requires EPA to consider the permittee's legal rights and practical capabilities, including whether the permittee has the property rights necessary to carry out the selected monitoring method at the selected location.

Put another way, it is not "possible" for a permittee to "detect[]… fluid migration" via any of the 40 C.F.R. § 146.13(d) methods at locations where the permittee cannot employ the methods at all. A monitoring requirement that is impossible to fulfill does not "provide" any "possible detection of fluid migration" at all, at any point in time; monitoring that cannot occur cannot detect fluid migration. *Cf. Riverkeeper, Inc. v. E.P.A.*, 475 F.3d 83, 99 (2d Cir. 2007) (holding statute requiring permittees use "best technology available for minimizing adverse environmental impact" did not mandate technologies the industry could not reasonably afford because such technology is "not 'available' in any meaningful sense"), *rev'd on other grounds sub nom. Entergy Corp. v. Riverkeeper, Inc.,* 556 U.S. 208, (2009).

In short, the Ninth Circuit and EPA's interpretation is incompatible with 42 U.S.C. § 300h-5's plain text. The court read the qualifier "where appropriate" out of the statute and did not consider whether a monitoring requirement can "provide the earliest possible detection of fluid migration" when a permittee lacks the rights needed to fulfill it.

B. The structure of the SDWA confirms EPA may not compel a permittee to utilize property rights the permittee does not possess.

The Ninth Circuit also claimed that "nothing in the… structure of [the SDWA] limit[s]" EPA's authority to impose monitoring conditions that are impossible for a permittee to fulfill without acquiring another party's property rights. App.3a. But the SDWA lacks the basic features Congress includes in regulatory statutes that involve these kinds of compelled real property transactions. Allowing EPA to effectively order permittees to undertake such transactions in the absence of such features leads to the type of "absurd or futile results" that courts must avoid when construing a statute. *Nixon v. Missouri Mun. League*, 541 U.S. 125, 138 (2004) (citing *United States v. Am. Trucking Ass'ns*, 310 U.S. 534, 543 (1940)).

When Congress intends for a regulatory regime to include the transfer of property rights between private parties, it provides a mechanism by which the administering agency or regulated entities can accomplish those transfers. For example, the Natural Gas Act ("NGA") grants FERC the authority to order natural gas companies "to extend or improve" their interstate pipelines to connect to local distributors when "such action [is] necessary or desirable in the public

interest." 15 U.S.C. § 717f(a). Congress anticipated that natural gas companies would need to acquire new property rights to fulfill such a requirement. Congress also recognized that landowners might refuse to sell the necessary property rights or demand an unreasonable price in light of the natural gas companies' inflexible obligation to comply with FERC's orders. Congress thus authorized FERC to certify a natural gas company to exercise eminent domain proceedings, compelling property owners to transfer property rights for a reasonable price when the company "cannot acquire by contract, or is unable to agree with the owner of property to the compensation to be paid for, the necessary right-of-way" or "land or other property" "to construct, operate, and maintain a pipe line." 15 U.S.C. § 717f(h).

Recognizing the significance of the power to force unwilling private parties to transact for property rights, Congress set forth detailed procedural and substantive requirements FERC must fulfill when authorizing a natural gas company to use eminent domain. *See id.* §§ 717f(c)-(e) (establishing requirements for initial certificate of public convenience and necessity); *id.* § 717f(h) (authorizing certificate holders to acquire necessary rights-of-way through exercise of specified eminent domain procedures); *City of Oberlin v. FERC*, 39 F.4th 719, 722 (D.C. Cir. 2022) (explaining FERC "evaluate[s] all the factors bearing on the public interest," balancing the "negative impact on… [a] landowners' property" and other "adverse effects that cannot be eliminated against the public benefits"). This structure demonstrates that, when Congress grants an agency the authority to require that one party use another's private property, it does so *explicitly*, with carefully crafted guardrails to ensure the agency uses the power only after mindful

deliberation. It does not bequeath such a significant power implicitly or incidentally by merely declining to expressly prohibit it.

In contrast to the NGA, the SDWA does *not* include any provision authorizing the use of eminent domain to secure land for offsite monitoring wells or any other purpose. UIC permittees thus have no mechanism to compel landowners to transfer the necessary property rights for a reasonable price. *See Oberlin*, 39 F.4th at 723 (holding the lack of any express eminent domain authorization for import/export facilities meant the process was unavailable). Without such processes, it is impossible for UIC permittees to comply with EPA orders like the one here if the landowner demands a prohibitively high price or outright refuses to allow the ordered monitoring (as the almond orchardist did here). Even if the landowner is willing to part with the necessary rights for a price the permittee can theoretically pay, the permittee could be forced to pay far above their fair market value by virtue of the inherently unequal bargaining positions this type of EPA order creates. If Congress intended that UIC permittees be subjected to such unfair treatment, it would have said so. *See Nixon*, 541 U.S. at 138 ("We think it farfetched that Congress meant" a statute to be interpreted to "often accomplish nothing" and result in arbitrarily differing treatment "in the absence of any clearer signal"); *United States v. 92 Buena Vista Ave., Rumson, N.J.*, 507 U.S. 111, 124 (1993) ("[T]he burden of persuading us that Congress intended such an inequitable result is especially heavy.").

The clear implication of Congress omitting any mechanism for a permittee to comply with an EPA order to utilize land it lacks rights to is that Congress

did not grant EPA such authority. *See NRDC*, 67 F.4th at 404. While the protection of underground drinking water is undoubtedly important, the SDWA is simply not structured to compel permittees to acquire property rights to do so. *See Brown & Williamson*, 529 U.S. at 125 ("Regardless of how serious the [purported] problem an administrative agency seeks to address… it may not exercise its authority 'in a manner that is inconsistent with the administrative structure that Congress enacted into law.'" (citation omitted)).

C. If Congress had intended to grant EPA such an unusual, far-reaching power, it would have been explicit—and it would not have taken EPA nearly forty years to notice.

Even if the Ninth Circuit was correct that nothing in the SDWA speaks to EPA's obligation to consider property rights when imposing monitoring conditions, the omission would not support EPA's claimed authority to require monitoring the permittee has no right to perform. The absence of an express statutory requirement or prohibition does not necessarily mean a power is included within an agency's statutory authority.[12] *See, e.g., Entergy*, 556 U.S. at 223 (noting "the rather unremarkable proposition that sometimes statutory silence, when viewed in context, is best interpreted as limiting agency discretion"); *Ry. Labor Execs. Ass'n v. Nat'l Mediation Bd.*, 29 F.3d 655, 671 (D.C. Cir. 1994) ("Were courts to presume a delegation of power absent an express withholding of such power, agencies would

[12] Courts have rejected this type of permitted-if-not-forbidden reasoning regarding EPA's SDWA authority. *NRDC,* 67 F.4th at 404 (ruling Congress did not delegate EPA authority to do anything it wishes so long as it does not "contravene any express statutory command").

enjoy virtually limitless hegemony."). Instead, the operative question is whether, in the broader "statutory context," Congress's decision not to explicitly address the issue is "best interpreted" as permitting or denying the agency the power in question. *Entergy*, 556 U.S. at 223 (citing *Whitman,* 531 U.S. at 457, and *American Textile Mfrs. Inst., Inc v. Donovan*, 452 U.S. 490 (1981)).

Here, that context confirms that, if Congress had intended EPA to have such a significant and unusual power, it would have said so. This Court presumes that Congress does not flippantly press against the legal and customary boundaries of federal administrative authority without commenting on its intentions, *see W. Virginia v. Env't Prot. Agency*, 597 U.S. 697, 721-22 (2022) (collecting cases), and EPA's interpretation strains these limits in multiple ways.

First, Congress does not hide delegations of significant powers or "alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes." *Whitman,* 531 U.S. at 468; *Brown & Williamson,* 529 U.S. at 159. Section 300h-5 is a simple provision about developing new groundwater monitoring techniques, so seemingly uncontroversial that no court cited it in the 37 years proceeding this case. Yet EPA claims this statute empowers it to require any Class I UIC permittee to drill and operate a monitoring well anywhere the Agency believes will provide the earliest detection of fluid migration—regardless of feasibility or cost, and irrespective of who owns the land or how it is currently being used.

EPA's new claimed authority has far-reaching consequences. *See infra* § II.E. "Congress could not have intended to delegate a [power] of such economic

and political significance to an agency in so cryptic a fashion." *Brown & Williamson*, 529 U.S. at 160.

Second, EPA's interpretation raises due process concerns. Under the longstanding canon of constitutional avoidance, "[a] statute must be construed, if fairly possible, so as to avoid not only the conclusion that it is unconstitutional, but also grave doubts upon that score." *United States v. Jin Fuey Moy*, 241 U.S. 394, 401 (1916). Even if it were plausible to interpret 42 U.S.C. § 300h-5 as providing EPA unfettered authorization to impose monitoring conditions that the permittee lacks the property rights to fulfill, such a construction would raise serious doubts as to the statute's constitutionality.

The constitutional guarantee of substantive due process protects against arbitrary government actions that are inherently unfair, "regardless of the procedures used to reach that decision." *Onyx Properties LLC v. Bd. of Cnty. Commissioners of Elbert Cnty.*, 838 F.3d 1039, 1043 (10th Cir. 2016) (citation omitted). The Constitution thus prohibits the government from penalizing a party for reasons that are "arbitrary and irrational." *E. Enterprises v. Apfel*, 524 U.S. 498, 537 (1998). For instance, it violates fundamental fairness to convict a criminal defendant for failing to do an act the defendant legally or physically cannot do. *See, e.g.*, *United States v. Dalton*, 960 F.2d 121, 124 (1992); *United States v. Spingola*, 464 F.2d 909, 911 (7th Cir. 1972).

This principle is not limited to criminal law. In *Cont'l Bank v. United States*, for example, Congress had made the interest earned on certain local government bonds tax exempt "at the election of the issuer, made at such time and in such manner as the [IRS] shall by regulations prescribe." 517 F. Supp. 918, 923 (E.D. Pa. 1981) (quoting 26 U.S.C. § 103), *aff'd*,

688 F.2d 819 (3d Cir. 1982). "[A]lthough not adopted until July 5, 1972, the regulation" that the IRS promulgated "purport[ed] to establish a September 5, 1971 deadline for" local governments to elect the exemption. *Id.* On review, the district court questioned "whether the regulation... accords [with] due process of law": "Notwithstanding the deference which must be accorded to IRS regulations, and the relatively narrow scope of review of such regulations, the statute obviously does not permit the Secretary to impose procedural requirements which are impossible to fulfill." *Id.* at 923-34. The court thus ruled that, "to the extent that the 1972 regulation imposes a 1971 deadline for filing an election statement, it is patently invalid." *Id.*

EPA orders like the monitoring condition at issue implicate similar concerns. Because the SDWA does not authorize the use of eminent domain to compel landowners to transfer property rights, it is impossible for a permittee to comply with a requirement to use land it does not own if the current owner refuses to cooperate. Permittees who invested millions and built up their operations in reliance on an initial ten-year UIC permit would be forced to shut down or face civil and criminal liability for not taking actions they have no power to take. Penalizing permittees for failing to do the impossible raises serious questions about fundamental fairness. If Congress had wished to wade into these choppy constitutional waters, it would have said so clearly. *See Clark v. Martinez*, 543 U.S. 371, 381 (2005) (explaining constitutional avoidance "rest[s] on the reasonable presumption that Congress did not intend the alternative which raises serious constitutional doubts").

Finally, the EPA's interpretation is dubious given it took the Agency nearly four decades to discover a remarkable power hidden in an unremarkable statute. Between the statute's enactment in 1986 and Panoche's 2022 final permit, EPA never imposed a monitoring condition that a UIC permittee lacked rights to fulfill. This Court employs particular "skepticism" when an agency purports to suddenly discover extraordinary power in a "long-extant statute" that it never before utilized in such a manner, *Utility Air Regulatory Group*, 573 U.S. at 324*,* and that is precisely what EPA did here.

D. Reversal will not unduly hamper SDWA regulation.

Panoche contends only that EPA cannot impose a monitoring requirement unilaterally where the permittee lacks legal rights to comply. Yet EPA has ample authority to carry out the SDWA.

Numerous regulatory regimes allow permits to be conditioned on the permittee taking some type of offsite action, frequently to mitigate or offset adverse impacts from the permitted activity. *See, e.g.,* 16 U.S.C. § 1539(a)(2)(A) (requiring mitigation for Endangered Species Act take permits); 33 C.F.R. §§ 320.4(r)(1), 325.4(a)(3) (authorizing offsite mitigation requirements for Clean Water Act and other water-related permits); 50 C.F.R. § 22.220 (mitigation requirement for eagle take permits under Bald and Golden Eagle Protection Act). But these offsite requirements are not imposed without consideration of the permittee's ability to fulfill them.

Agencies work with the permit applicant to develop offsite conditions with which the applicant can comply. Generally, they employ a process that involves the

applicant submitting a proposal to address agency concerns, the parties negotiating over modifications or alternatives, and the agency ultimately accepting or rejecting the proposal based on whether it satisfies statutory and regulatory criteria. *See, e.g.*, *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1152 (9th Cir. 1997) ("If the objecting agencies remain opposed to the wetlands mitigation plan each can voice its concerns as the [Clean Water Act] permit process evolves."). An agency can also work with permittees and landowners to broker a transfer of needed rights prior to issuing a final permit, allowing negotiations to proceed without the imbalance in bargaining power created by the coercive force of a binding final permit condition. If the permit applicant and agency are unable to reach agreement regarding a *feasible* measure that resolves the agency's concerns, the agency may deny the permit.

In other words, when the permittee has the necessary rights for offsite monitoring or can acquire them for a reasonable price before EPA imposes the condition—a likelier outcome when negotiations are premised on the monitoring site being only one option under consideration—it may be entirely "appropriate" for EPA to require the permittee use those rights. 42 U.S.C. § 300h-5. And EPA can of course deny the permit application if there is truly no way to operate the well safely without utilizing property rights the permittee does not have and cannot acquire.

E. The Question Presented has significant legal and practical implications that warrant review.

Finally, the Question presented is of great importance in terms of both practical ramifications and legal precedent.

Panoche is not the only entity managing a critical piece of the nation's infrastructure who requires a Class I UIC permit for its continued operations. There are over a dozen Class I permit holders in EPA's Pacific Southwest region alone, most of them power-plants whose permits are presumably as central to their operations as Panoche's.[13] These and many other industrial operators across the country rely on fair and predictable federal permitting processes. Leaving the Ninth Circuit's decision in place will impose significant practical and legal costs on these entities. EPA has already demonstrated it is willing to exercise its purported authority in ways that imperil these permittees' very ability to operate, threatening to shutter utilities and other operators who collectively provide critical services like electricity to significant portions of the population.

Under EPA's reasoning, it could require permittees to drill a well in the middle of Times Square if it believes that is where fluid migration can earliest be detected. Even if monitoring at more practical locations could ensure the permittees' injection wells operated safely, they would be forced to shut down or face severe legal penalties if they are unable to acquire the rights to drill there. EPA could also grant windfalls to specific private landowners, increasing the value of their properties by effectively mandating utilities or other large businesses purchase monitoring rights at whatever price they demand. EPA's claimed authority would have far-reaching implications across multiple industries and have ramifications for the populations

---

[13] *EPA, UIC Permits in EPA's Pacific Southwest (Region 9),* (Dec. 12, 2024), https://www.epa.gov/uic/r9-uic-permits.

who depend on UIC permittees for electricity and other crucial services.

Moreover, nothing limits the Ninth Circuit's reasoning to 42 U.S.C. § 300h-5. The court held that an agency may compel a permittee to utilize other parties' property regardless of costs or feasibility so long as relevant statutes do not expressly prohibit it. Federal agencies administer countless permitting regimes regulating all manner of activities in a variety of fields. The Ninth Circuit's holding is precedent that these agencies may effectively compel permittees to purchase rights, goods, and services from specific private parties under threat of permit revocation and legal penalties. The sheer scope of this power is staggering—as is the potential for abuse.

With *Loper Bright,* this Court ushered in a new era of administrative law, changing the basic way federal courts interpret congressional delegations of administrative power. The Court should grant certiorari to correct the Ninth Circuit's faulty methodology and provide guidance to lower courts faced with similar claims of agency authority derived from the absence of express statutory limitations.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

VARU CHILAKAMARRI
Counsel of Record
ANKUR K. TOHAN
J. TIMOTHY HOBBS
SPENCER MCCANDLESS
K&L GATES LLP
1601 K Street, NW
Washington, D.C. 20006
(202) 778-9000
varu.chilakamarri@klgates.com
ankur.tohan@klgates.com
tim.hobbs@klgates.com
spencer.mccandless@klgates.com

Counsel for Petitioner

January 3, 2025

APPENDIX

APPENDIX TABLE OF CONTENTS

Page

APPENDIX A: MEMORANDUM, U.S. Court of Appeals for the Ninth Circuit (June 18, 2024) 1a

APPENDIX B: NOTICE OF PERMIT DECISION, U.S. E.P.A., Region IX (June 7, 2023) 6a

APPENDIX C: ORDER DENYING REVIEW, Environmental Appeals Board (May 26, 2023) 8a

APPENDIX D: FINAL PERMIT, U.S. E.P.A. (2023) 62a

APPENDIX E: ORDER, U.S. Court of Appeals for the Ninth Circuit (August 8, 2024) 108a

APPENDIX F: 42 U.S.C. § 300h-5. ..... 109a

APPENDIX G: 42 U.S.C. § 300h. 110a

APPENDIX H: 5 U.S.C. § 706. ..... 116a

APPENDIX I: 40 C.F.R. § 146.13. ..... 117a

APPENDIX J: 40 C.F.R. § 144.55. ..... 120a

APPENDIX A

NOT FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

[FILED: JUN 18 2024]

No. 23-1268

PANOCHE ENERGY CENTER, LLC,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY; MICHAEL S. REGAN, Administrator of the United States Environmental Protection Agency; MARTHA GUZMAN ACEVES, Regional Administrator of Region 9 of U.S.,

Respondents.

On Petition for Review of an Order of the Environmental Protection Agency

Argued and Submitted May 22, 2024
Anchorage, Alaska

MEMORANDUM*

* This disposition is not appropriate for publication and is not precedent except as provided by Ninth Circuit Rule 36-3.

Before: BYBEE, FRIEDLAND, and MILLER, Circuit Judges.

Panoche Energy Center petitions for review of an underground injection control permit issued by the Environmental Protection Agency. We have jurisdiction under 42 U.S.C. § 300j-7(a)(2), and we deny the petition.

Under the Administrative Procedure Act, we "set aside" agency action that is "arbitrary, capricious," "not in accordance with law," or "in excess of statutory jurisdiction, authority, or limitations." 5 U.S.C. § 706(2)(A), (C). Agency action is arbitrary and capricious if "the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Food & Water Watch v. EPA*, 20 F.4th 506, 514 (9th Cir. 2021) (quoting *Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 43 (1983)).

1. Panoche argues that the EPA violated the Safe Drinking Water Act by requiring ambient monitoring on property Panoche does not own. But the monitoring condition was within the EPA's broad statutory discretion to prevent the potential endangerment of drinking water by underground injection. The statute mandates that the EPA require monitoring "wherever appropriate, at locations and in such a manner as to provide the earliest possible detection of fluid migration" that could adversely affect human health. 42 U.S.C. § 300h-5; *see also* 42 U.S.C. § 300h(b)(1), (d)(2). It does not require the EPA to consider property ownership before determining where to require monitoring.

Panoche argues that because the Act does not expressly authorize offsite monitoring, the EPA must lack the authority to require it. However, Panoche identifies nothing in the language or structure of the statute limiting the broad grant of authority to the EPA. Nor does the offsite monitoring condition implicate federalism concerns. The permit does not interfere with state regulation of private property; it merely requires Panoche to contract for access to the necessary land. Whether the EPA may require offsite monitoring is also not a "major question": The EPA is not asserting the power to regulate "a significant portion of the American economy," *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000), and it is far from "implausible" that Congress contemplated offsite monitoring as a means of achieving its clear directive, *Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 468 (2001).

Finally, the EPA's reading of the statute does not implicate the eminent domain power or otherwise interfere with property rights. By its terms, the permit "does not convey property rights of any sort or any exclusive privilege" or "authorize . . . any invasion of other private rights." And the EPA has consistently maintained that ensuring "access to private property to meet the requirements of the permit conditions" is "outside the scope of [underground injection control] permitting authority."

2. Panoche also argues that the EPA failed to consider the cost of monitoring on property it does not own, in contravention of the Safe Drinking Water Act, the agency's implementing regulations, and agency precedent. Assuming without deciding that some degree of cost consideration is appropriate, we conclude that the EPA's consideration of costs was adequate. The

EPA determined that "monitoring is not particularly expensive when compared to the information received," and it responded to Panoche's cost concerns by reducing the number of locations and the depth at which the permit required monitoring. The EPA explained that the permit's monitoring requirement "would provide the empirical data needed about subsurface pressures, while limiting the burden and cost" of monitoring. Panoche also appears to have made no effort to determine the cost of accessing the relevant land. If, after negotiating with the neighboring landowner, Panoche is unable to secure access to the necessary land, the permit allows Panoche to request changes to the monitoring condition. *See* 40 C.F.R. § 144.39(a)(2).

3. The EPA's decision to require an ambient monitoring well near abandoned well Silver Creek #18 was not arbitrary and capricious. The EPA did not "entirely fail[] to consider an important aspect of the problem," *State Farm*, 463 U.S. at 43, by rejecting Panoche's concerns about its property rights. As noted above, the EPA adequately considered the costs associated with offsite monitoring. Nor did the EPA treat Panoche differently from similarly situated permittees by requiring offsite monitoring in this case. Panoche identifies no case in which the agency declined to require offsite monitoring when the area of review contained several abandoned wells penetrating the injection zone and the permittee had not yet attempted to access the necessary property.

The EPA's decision to require ambient monitoring near Silver Creek #18 also evinced a rational connection between the facts found and the choice made. Panoche bears the burden of showing that its injection activities pose no risk of endangerment. *See* 40 C.F.R. § 144.12(a). The EPA conducted a site-

specific analysis—considering, for example, the fact that the abandoned wells penetrate an over-pressurized injection zone and lack adequate long-string casing and cement plugs—to determine that the abandoned wells pose a risk of endangerment necessitating monitoring. The EPA reasonably refused to credit Panoche's argument that there is no current risk of endangerment because the mud used to plug Silver Creek #18 was legally adequate under state law in 1974.

Contrary to Panoche's representation, the EPA's decision to require ambient monitoring did not depend on an irrational assumption that Panoche would operate at maximum capacity. Instead, the agency reasoned that because the Panoche Formation is already over-pressurized, *any* additional fluids injected could result in pressure or water quality changes in the underground source of drinking water, which monitoring could help detect.

The EPA also did not irrationally fail to consider how the region's sandstone and natural confining layers could reduce fluid migration from the injection zone. The monitoring requirement was based on the EPA's concern regarding fluids migrating through abandoned wells that pierce those layers.

Finally, it was not irrational for the EPA to require ambient monitoring even though fluid migration from the injection zone might not worsen water quality. The EPA's observation that the effect of fluid migration on water quality depends on the concentration of contaminants in the fluid is consistent with its statutory and regulatory authority to require monitoring to prevent potential endangerment. *See* 42 U.S.C. §§ 300h(d)(2), 300h-5; 40 C.F.R. § 146.13(d)(1).

PETITION DENIED.

APPENDIX B

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

NOTICE OF FINAL PERMIT DECISION
UIC Permit No. R9UIC-CA1-FY17-2R
For Panoche Energy Center, LLC

In accordance with the requirements of the Code of Federal Regulations (C.F.R.), Title 40 C.F.R. § 124.19(l)(2)(i), the United States Environmental Protection Agency, Region 9 (EPA) is issuing a Notice of Final Permit Decision for UIC Permit No. R9UIC-CA1-FY17-2R to Panoche Energy Center, LLC (PEC), located at 43883 West Panoche Rd, Firebaugh, CA 93622. The final UIC Permit and copy of this Notice are available on EPA's web page at: https://www.epa.gov/uic/uic-class-i-permit-no-r9uic-ca1-fy17-2r-panoche-energy-center-llc-firebaugh-ca.

PEC filed a petition for review (Petition) of the Final Permit with EPA's Environmental Appeals Board (EAB) on October 28, 2022. In the Petition, PEC contested certain conditions of the Final Permit. The uncontested and severable portions of the Final Permit were placed into effect pursuant to a Notice of Stay of Contested Conditions, dated November 7, 2022. The contested conditions were stayed pending a decision by the EAB on the Petition and final agency action.

On May 26, 2023, the EAB issued an order denying the Petition in its entirety. I*n re Panoche Energy*

Center, LLC, UIC Appeal No. 22-01 (EAB May 26, 2023). Under 40 C.F.R. § 124.19(l)(2)(i), a final permit decision must be issued by the Regional Administrator when the EAB issues notice to the parties that a petition for review has been denied. Accordingly, I am hereby issuing my final permit decision.

The contested conditions shall become fully effective and enforceable in accordance with the terms of the Final Permit issued on September 30, 2022, with an effective date of October 31, 2022.[1]

This decision constitutes final agency action under 40 C.F.R. § 124.19(1)(2)(i). Under 40 C.F.R. § 23.7, this Notice becomes effective for purposes of judicial review under 42 U.S.C. § 300-j(7) and 5 U.S.C. § 704 two weeks after this Notice is signed.

Dated: _____

/s/ Martha Aceves
Digitally signed by MARTHA ACEVES
Date: 2023.06.07 14:58:59 -07'00'
Martha Guzman
Regional Administrator

[1] The Permit expiration date remains unchanged. As indicated in Part I of the Permit, the Permit is issued for a period of ten (10) years unless the Permit is terminated under the conditions set forth in Section III.B.1 or administratively extended under the conditions set forth in Section III.E.12 of the Permit.

APPENDIX C

ENVIRONMENTAL ADMINISTRATIVE DECISIONS

IN RE PANOCHE ENERGY CENTER, LLC
UIC Appeal No. 22-01

ORDER DENYING REVIEW

Decided May 26, 2023

Syllabus

Panoche Energy Center, LLC seeks Environmental Appeals Board review of an Underground Injection Control ("UIC") Class I non-hazardous waste injection well permit ("Final Permit") issued by Region 9 of the U.S. Environmental Protection Agency. The Final Permit authorizes Panoche to continue to operate four existing injection wells located at its Facility site and to construct and operate up to two additional wells, subject to certain permit conditions. One permit condition requires ambient monitoring and directs Panoche to install a monitoring well in the vicinity of a nearby abandoned well, Silver Creek #18, located within the Area of Review ("AoR"), to perform chemical analysis and measure specific conductance and formation pressure. Panoche challenges the inclusion of this ambient monitoring requirement in the Final Permit.

Held: The Board finds that, based on the administrative record, Panoche has not demonstrated that the Region clearly erred or abused its discretion in requiring ambient monitoring in the Final Permit, or that review is otherwise warranted. The Board denies the petition for review in its entirety.

Panoche bears the burden of demonstrating that its injection activities will not be conducted in a manner that allows the movement of fluid into underground

sources of drinking water ("USDW"). Panoche has not demonstrated that the Region clearly erred or abused its discretion by requiring ambient monitoring. Panoche argues the Region lacks factual support for its decision to require ambient monitoring, and the Region ignored record evidence undercutting that decision. The administrative record supports the Region's determination that there is potential for fluid movement from the injection zone into the USDW and the ambient monitoring condition in the Final Permit. The Safe Drinking Water Act is preventative in nature, and the UIC regulations provide the Region with the authority and discretion to require ambient monitoring in the Final Permit. The ambient monitoring requirement is supported by the administrative record, including information Panoche provided, and is consistent with the UIC regulations and the Region's statutory obligation to ensure USDW protection. The Region had a rational basis for the ambient monitoring requirement based on, among other things the: overpressured nature of the Panoche formation, uncertainty about the condition of wells in the AoR abandoned decades ago that present a potential pathway for fluid migration, and potential value of the ambient monitoring condition to provide early warning of potential endangerment to the USDW. The record reflects extensive technical reviews and shows that the Region duly considered the technical and other issues raised by Panoche in its comments and chose an approach that is rational in light of all the information in the record.

Before Environmental Appeals Judges Wendy L. Blake, Mary Kay Lynch, and Kathie A. Stein.

Opinion of the Board by Judge Lynch:

I. *STATEMENT OF THE CASE*

Panoche Energy Center, LLC seeks Environmental Appeals Board review of an Underground Injection Control ("UIC") Class I non-hazardous waste injection well permit ("Final Permit") issued by Region 9 of the U.S. Environmental Protection Agency. Panoche ("PEC") operates a simple cycle power generation plant in Firebaugh, California. The Final Permit authorizes Panoche to continue to operate four existing injection wells located at its Facility site and to construct and operate up to two additional wells, subject to certain permit conditions. One permit condition requires ambient monitoring and directs Panoche to install a monitoring well in the vicinity of a nearby abandoned well, Silver Creek #18, located within the Area of Review ("AoR") to perform chemical analysis and measure specific conductance and formation pressure. Panoche challenges the inclusion of this ambient monitoring requirement in the Final Permit.

The issue before the Board is whether Panoche demonstrated that the Region clearly erred or abused its discretion by requiring the ambient monitoring condition in the Final Permit. For the reasons set forth below, the Board finds that Panoche failed to demonstrate that the Region's decision to include the ambient monitoring condition in the Final Permit was clear error or an abuse of discretion. Accordingly, the Board denies Panoche's petition for review.

II. *PRINCIPLES GOVERNING BOARD REVIEW*

The Board's review of UIC permits is governed by Agency permitting regulations at 40 C.F.R. part 124, which authorize parties to file petitions for review of EPA permit decisions. 40 C.F.R. § 124.19(a)(1). EPA's

intent in promulgating these regulations was that this "review should be only sparingly exercised." Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980); *see also In re Beeland Grp., L.L.C.*, 14 E.A.D. 189, 195-96 (EAB 2008).

In any appeal from a permit decision issued under part 124, the petitioner bears the burden of demonstrating that review is warranted. "[A] petition for review must identify the contested permit condition or other specific challenge to the permit decision and clearly set forth, with legal and factual support, petitioner's contentions for why the permit decision should be reviewed." 40 C.F.R. § 124.19(a)(4)(i); *In re Jordan Dev. Co., L.L.C.*, 18 E.A.D. 1, 4 (EAB 2019).

In considering any petition filed under 40 C.F.R. § 124.19(a), the Board evaluates whether the petitioner has met threshold procedural requirements, including, among other things, whether an issue has been preserved for Board review. *See* 40 C.F.R. § 124.19(a)(2)-(4); *see also In re Penneco Envtl. Sols., L.L.C.*, 17 E.A.D. 604, 617-18 (EAB 2018); *In re Seneca Res. Corp.*, 16 E.A.D. 411, 412 (EAB 2014). For example, a petitioner must demonstrate that any issues and arguments it raises on appeal have been preserved for Board review by being raised with "a reasonable degree of specificity and clarity" during the public comment period or public hearing. *In re City of Lowell*, 18 E.A.D. 115, 131 (EAB 2020) (citing *In re Westborough*, 10 E.A.D. 297, 304 (EAB 2002)); *see* 40 C.F.R. §§ 124.13, .19(a)(4)(ii); *see also In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 230 (EAB 2000) (holding issue was not preserved when it was not presented in comments "with sufficient clarity to enable a meaningful response").

Under 40 C.F.R. § 124.19, the Board has discretion to grant or deny review of a permit decision. *In re*

Avenal Power Ctr., L.L.C., 15 E.A.D. 384, 394 (EAB 2011); *In re Archer Daniels Midland Co.*, 17 E.A.D. 380, 382-83 (EAB 2017). The Board ordinarily denies a petition for review of a permit decision (and thus does not remand it) unless the petitioner demonstrates that the permit decision is based on a clearly erroneous finding of fact or conclusion of law or involves an exercise of discretion that warrants review under the law. 40 C.F.R. § 124.19(a)(4)(i)(A)-(B); *see*, *e.g.*, *In re La Paloma Energy Ctr., L.L.C.*, 16 E.A.D. 267, 269 (EAB 2014). To meet this standard, it is not enough for a petitioner to simply repeat comments previously submitted on the draft permit. A petitioner must demonstrate why the permit issuer's response to those objections is clearly erroneous or otherwise warrants review. 40 C.F.R. § 124.19(a)(4)(ii); *City of Lowell*, 18 E.A.D. at 131; *see In re City of Taunton*, 17 E.A.D. 105, 111, 180, 182-83, 189 (EAB 2016) *aff'd*, 895 F.3d 120 (1st Cir. 2018), *cert. denied*, 139 S.Ct. 1240 (2019).

When evaluating a challenged permit decision for clear error, the Board examines the administrative record that serves as the basis for the permit to determine whether the permit issuer exercised "considered judgment." *City of Lowell*, 18 E.A.D. at 132 (citing *In re Gen. Elec. Co.*, 17 E.A.D. 434, 560-61 (EAB 2018); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 417-18 (EAB 1997)). The permit issuer must articulate with reasonable clarity the reasons supporting its conclusion and the significance of the crucial facts it relied on when reaching its conclusion. *E.g.*, *In re Shell Offshore, Inc.*, 13 E.A.D. 357, 391 (EAB 2007). As a whole, the record must demonstrate that the permit issuer "duly considered the issues raised in the comments" and ultimately adopted an approach that "is rational in light of all information in the record." *In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323,

342 (EAB 2002); *see In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998), *pet. for review denied sub nom. Penn. Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3rd Cir. 1999).

In reviewing an exercise of discretion by the permit issuer, the Board applies an abuse of discretion standard. *See In re City of Palmdale,* 15 E.A.D. 700, 704 (EAB 2012). The Board will uphold a permit issuer's reasonable exercise of discretion if that decision is cogently explained and supported in the record. *See Ash Grove Cement,* 7 E.A.D. at 397 ("[A]cts of discretion must be adequately explained and justified.").

On matters that are fundamentally technical or scientific in nature, including monitoring issues, the Board typically defers to a permit issuer's technical expertise and experience, as long as the permit issuer adequately explains its rationale and supports its reasoning in the administrative record. *See In re Peabody W. Coal Co.*, 12 E.A.D. 22, 50-51 (EAB 2005); *Gen. Elec.*, 17 E.A.D. at 514-15; *In re Dominion Energy Brayton Point, L.L.C., (Formerly USGEN New England, Inc.) Brayton Point Station,* 12 E.A.D. 490, 510, 560-62, 645-47, 668, 670-74 (EAB 2006); *see also*, *e.g.*, *In re Russell City Energy Ctr., L.L.C.*, 15 E.A.D. 1, 12, 39-42, 60-66 (EAB 2010), *petition denied sub nom. Chabot-Las Positas Cmty. Coll. Dist. v. EPA*, 482 F. App'x 219 (9th Cir. 2012); *NE Hub Partners*, 7 E.A.D. at 570-71. Clear error or abuse of discretion in a permit issuer's technical determination cannot be "established simply because petitioners document a difference of opinion or an alternative theory." *NE Hub Partners*, 7 E.A.D. at 567.

III. *LEGAL FRAMEWORK*

Congress established the UIC program pursuant to the Safe Drinking Water Act ("SDWA") and required

EPA to promulgate regulations for underground injection control programs to protect underground sources of drinking water ("USDWs"). SDWA § 1421, 42 U.S.C. § 300h. Congress designed the program as a preventative program. *See* SDWA § 1421(b)(1), 42 U.S.C. § 300h(b)(1) ("Regulations * * * for State underground injection programs shall contain minimum requirements for effective programs to prevent underground injection which endangers drinking water sources * * *."). EPA has promulgated such regulations, including minimum requirements for UIC permits. *See* 40 C.F.R. pts. 144-148. EPA administers the UIC program in states such as California that are not authorized to administer their own UIC programs. *See* 40 C.F.R. §§ 144.1(e), 147.251(a).[1]

Central to the UIC regulations is protecting underground sources of drinking water from endangerment associated with underground injection activities. *See* SDWA § 1421(b)(1), (d), 42 U.S.C. § 300h(b)(1), (d); 40 C.F.R. § 144.1(g). The UIC program focuses on the protection of underground water that "supplies or can reasonably be expected to supply any public water system" from "any contaminant" that may be present as a result of underground injection activities. SDWA § 1421(d)(2), 42 U.S.C. § 300h(d)(2). The purpose of the UIC regulations is to prevent the movement of fluids containing contaminants into USDWs if the presence of those contaminants may cause a violation of a primary drinking water regulation or otherwise adversely affect human health. *See* 40 C.F.R. § 144.12(a). "[A]ll

[1] The UIC regulations use the term "Director" to describe the permitting authority. 40 C.F.R. § 146.3 (defining "Director"). Because this matter involves an EPA-administered program, the Board will refer to the "permit issuer" or the Region, as appropriate, in places where the regulations use the term "Director."

injection activities including construction of an injection well are prohibited until the owner or operator is authorized by permit." *Id.* § 144.31(a).

Injection wells fall into six classes. *Id.* §§ 144.6, 146.5. Class I wells are used to inject hazardous and, like the wells at issue here, non-hazardous wastes. Waste is injected into deep, confined rock formations, and these wells are typically drilled thousands of feet below the lowermost USDW. *See id*. §§ 144.6(a), 146.5(a).

Among other things, applicants for an injection well permit must delineate an "area of review" ("AoR") for the permit, and that delineation must be approved by the permitting authority. *Id*. § 146.6. The AoR denotes the area surrounding injection wells in which the pressures in the injection zone may cause migration of the injection or geological formation fluids out of the injection zone and into a USDW. *See id.* § 146.6(a)(1)(ii). Applicable to the permit process for all classes of wells, EPA's regulations define the AoR as the area surrounding the proposed injection well that is determined using either a "zone of endangering influence" calculation or the "fixed radius" method. *See id*. § 146.6; *see also id*. § 144.3. The UIC regulations require that a well operator identify all known wells within the AoR that penetrate the proposed well's injection zone and submit a corrective action plan to address any improperly sealed, completed, or abandoned wells in the area of review that otherwise might allow fluid to migrate into USDWs. *See id*. § 144.55(a). Further, the regulations require the permit issuer to ensure that the applicant takes corrective action, as necessary, to prevent fluid migration into USDWs. *Id*. § 144.55(a).

Monitoring is a key component in preventing endangerment of drinking water sources. *See* SDWA

§ 1421(b)(1)(C), 42 U.S.C. § 300h(b)(1)(C). The UIC regulations require that prior to authorizing injection, the permit issuer must ensure that Class I permits include, at a minimum, the following monitoring requirements:

> (1) The analysis of the injected fluids with sufficient frequency to yield representative data of their characteristics;
>
> (2) Installation and use of continuous recording devices to monitor injection pressure, flow rate and volume, and the pressure on the annulus between the tubing and the long string of casing;
>
> (3) A demonstration of mechanical integrity pursuant to § 146.8 at least once every five years during the life of the well; and
>
> (4) The type, number, and location of wells within the area of review to be used to monitor any migration of fluids into and pressure in the underground sources of drinking water, the parameters to be measured and the frequency of monitoring.

40 C.F.R. § 146.13(b).

In addition, the regulations specifically address ambient monitoring in a provision that EPA added in 1988, which provides as follows:

> Based on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement, the Director shall require the owner or operator to develop a monitoring program. At a minimum, the Director shall require

> monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.

Id. § 146.13(d)(1).

And as explained in the preamble to the 1988 rule, EPA has "discretion in determining an acceptable [monitoring] program." UIC Program: Hazardous Waste Disposal Injection Restrictions; Amendments to Technical Requirements for Class I Hazardous Waste Injection Wells; and Additional Monitoring Requirements Applicable to all Class I Wells, 53 Fed. Reg. 28,118, 28,141, 28,145 (July 26, 1988). Accordingly, in addition to the minimum ambient monitoring requirements listed above, EPA may require that an ambient monitoring system include, among other things: "[c]ontinuous monitoring for pressure changes in the first aquifer overlying the confining zone," periodic monitoring of the ground water quality in the first aquifer overlying the injection zone and in the lowermost USDW, and "[a]ny additional monitoring necessary to determine whether fluids are moving into or between USDWs." 40 C.F.R. § 146.13(d)(2)(i), (iii)-(v).

IV. *FACTUAL AND PROCEDURAL SUMMARY*

A. Panoche Facility and Permit History

Panoche Energy Center is a 400-megawatt simple-cycle power plant, consisting of four natural gas-fired combustion turbine generators. Region 9, U.S. EPA, *Permit No. CA10600001 Fact Sheet,* at 2 (2021) (A.R. 58) ("Fact Sheet"). The Facility is located in an unincorporated area of western Fresno County, California. *Id.* The Region issued a permit to Panoche on April 25, 2008, which authorized Panoche to construct and

operate a Class I nonhazardous waste injection well facility with a maximum of six injection wells for a ten-year period. Region 9, U.S. EPA, *Permit No. CA10600001*, at 4 (Apr. 25, 2008) (A.R. 50) ("2008 Permit").[2] The 2008 Permit further authorized Panoche to inject into the Panoche Formation at depths ranging between approximately 7,199 to 8,897 feet below ground surface. Fact Sheet at 2. In October 2017, Panoche timely applied for renewal of the 2008 Permit seeking authorization to inject industrial wastewater from Panoche's Facility into the four existing, and two potential, non-hazardous injection UIC Class I wells, for a ten-year period. Haley & Aldrich, Inc., *2017 UIC Permit Application: Panoche Energy Center, 43883 W. Panoche Road, Firebaugh, California 93622* (Oct. 20, 2017) (A.R. 3); Fact Sheet at 2. The Region deemed the application complete, which allowed for continued operation under an administrative extension. Fact Sheet at 2.

B. Technical Review Leading up to Draft Permits

Panoche and the Region engaged in a series of technical discussions and reviews in which the Region requested additional information to support the permit application and site-specific assessment. *See generally* Region 9, U.S. EPA, *Permit Renewal Application Technical Review* (May 18, 2018) (A.R. 31) ("May 2018 Technical Review Letter"); Panoche Energy Center, *Summary of Responses and Questions to the UIC Permit Renewal Application* (July 12, 2018) (A.R. 32); Region 9, U.S. EPA, *Permit Renewal Application Response to PEC Questions* (Sept. 7, 2018) (A.R. 33).

---

[2] Panoche operated only four wells under the 2008 Permit. Fact Sheet at 2.

As a result of these technical discussions, Panoche submitted an updated renewal application that included some of the technical information the Region had requested. Haley & Aldrich, Inc., *2019 Update and Re-submittal of PEC's 2017 UIC Permit Renewal Application* (Mar. 1, 2019) (A.R. 1) ("2019 Application"). Relevant to this proceeding, one focus of the Region's review was a series of abandoned wells in the AoR/zone of endangering influence. *See*, *e.g.*, May 2018 Technical Review Letter enclosure at 2; June 2019 Technical Review Letter enclosure at 1; 2019 Application attach. C (A.R. 1c). Several of the abandoned wells penetrate the injection zone. 2019 Application attach. C at C-4-C-8. The closest abandoned well to the injection zone is Silver Creek #18, which is drilled to a depth of 8,698 feet. *Id.* attach. C at C-7.

Following receipt of the updated permit application in March 2019, the Region continued its technical review of the application. In June 2019, it commented that the determination of the AoR in the application (that used the Zone of Endangering Influence or "ZEI" calculation) relied on the gel strength of the plugging mud in the abandoned wells, but the application lacked information about the properties of the plugging mud in the abandoned wells in the AoR over the long term and whether these wells could allow fluid movement into USDWs. *See*, *e.g.*, Region 9, U.S. EPA, *Comments on PEC's March 2019 Updated Permit Application* enclosure at 1 (June 21, 2019) (A.R. 35) ("June 2019 Technical Review Letter"). The Region explained that five wells in the AoR had been abandoned without cement plugs between the injection zone and the base of the USDW, four of which were abandoned 55 to 68 years ago, and it was unknown if the plugging mud used in these abandoned wells had retained the properties it had before the wells were abandoned, or

whether the mud had become stratified or lost volume to the surrounding formations. *Id.*; *see also* 2019 Application attach. C. The Silver Creek #18 well was plugged in 1974. 2019 Application attach. C at C-4; Panoche Energy Center, LLC's Reply in Support of Petition for Review ("Reply Br."), attach. 4 at 45 (Jan. 31, 2023) ("Silver Creek #18 Plugging Records"). The Region explained to Panoche that "empirical, depth-specific data would best demonstrate that the well(s) will not permit fluid movement that could endanger USDWs." June 2019 Technical Review Letter enclosure at 1. The Region also requested that Panoche provide a sampling and testing protocol to collect test drilling mud samples in at least two wells in the AoR to support Panoche's approach to identifying the ZEI and demonstrate that the abandoned wells will not allow fluid movement that could endanger USDWs. *Id*.

The Region and Panoche continued to engage in technical discussions. *See*, *e.g*., Haley & Aldrich, Inc., *Response to EPA Comments on PEC's 2019 Update and Re-submittal of the 2017 Permit Renewal Application* (Oct. 2019) (A.R. 36); Region 9, U.S. EPA, *UIC Permit Renewal Application Class I Non-Hazardous Permit R9UIC-CA1-FY17-2R Technical Review* (Dec. 3, 2019) (A.R. 38) ("Dec. 2019 Technical Review Letter"). In the December 2019 Technical Review Letter, the Region informed Panoche that it did not share Panoche's views on the accuracy of its modeling efforts to demonstrate that mud weight and gel strength in the abandoned wells will prevent fluid movement into the USDW and explained its rationale. Dec. 2019 Technical Review Letter enclosure at 2. The Region's assessment of some of the studies Panoche presented during this review was included in the December 2019 Technical Review Letter. For example, the Region noted that a statement in the Barker Study "supports EPA's view that there is

uncertainty regarding the gel strength for the particular wells in question." *Id.*, enclosure at 1; *see also* S.E. Barker, *Determining the Area of Review for Industrial Effluent Disposal Wells*, at 89 (Dec. 1981) (A.R. 43o) ("Barker Study"). With respect to the Hadaway statement, the Region "concurs that the mud column generally falls over time in an uncased wellbore." Dec. 2019 Technical Review Letter enclosure at 2 (referencing Allen Hadaway, *Wellbore Re-Entry Mud Property Expert Opinion* (Nov. 7, 2019) (A.R. 37). The Region proposed different approaches to evaluate the condition of the mud in the abandoned wells in the AoR. Dec. 2019 Technical Review Letter enclosure at 2-3. Given Panoche's concerns with the Region's proposal to reenter one of the abandoned wells to evaluate the mud condition, the Region identified in the December 2019 Technical Review Letter an alternative approach under which Panoche would prepare to install monitoring wells to demonstrate that the abandoned wells are not serving as conduits for fluid movement. *Id*. at 3. Panoche and the Region did not reach agreement on an approach to monitoring during the technical review process. *See id.*; Panoche Energy Center, *Response to USEPA Comment No. 1d from letter dated December 3, 2019*, at 6-7 (Jan.17, 2020) (A.R. 39) ("Panoche Response to Dec. 2019 Technical Review Letter"); Region 9, U.S. EPA, *Response to Comments*, at 5 (Cmt. #4) (Sept. 30, 2022) (A.R. 48) ("Resp. to Cmts."). Further, Panoche did not provide the empirical data the Region requested during this process, or at any time thereafter. *See* Resp. to Cmts. at 6 (Cmt. #5).

C. Draft Permits

In late July 2020, the Region sent a pre-publication draft permit to Panoche. Region 9, U.S. EPA, *Underground Injection Control Program Draft Permit*

Class I Non-hazardous Waste Injection Wells Permit No. R9UIC-CA1-FY17-2R with comments (Jul. 27, 2020) (A.R. 9) ("2020 Pre-Publication Draft"). In addition to other monitoring, recordkeeping, and reporting requirements, the 2020 Pre-Publication Draft required corrective action be undertaken prior to injection at three abandoned wells in the AoR, which included plugging the Souza #2 well and drilling ambient monitoring wells (referred to as USDW Monitoring) near the Silver Creek #18 and England #1-31 wells. *Id.* at 9-10, 18.[3] Panoche sent written comments to the Region on this pre-publication draft opposing the corrective action and ambient monitoring requirements. Letter from Ankur K. Tohan, K&L Gates, to David Albright, Groundwater Protection Section, EPA Region 9, at 3 (Sept. 25, 2020) (A.R. 12) ("Pre-Publication Comments").

Following a December 2020 meeting to discuss the comments and information Panoche provided, the Region revised the 2020 Pre-Publication Draft and published the draft permit for public comment in April 2021. Region 9, U.S. EPA *Underground Injection Control Program Draft Permit Class I Non-hazardous Waste Injection Wells Permit No. R9UIC-CA1-FY17-2R* (Apr. 12, 2021) (A.R. 10) ("2021 Draft Permit"). The 2021 Draft Permit eliminated the corrective action requirements, including the requirement to plug the Souza #2 well; the USDW/ambient monitoring requirement near the England #1-31 well; and the requirement to drill monitoring wells prior to injection.[4] *See* 2021

---

[3] In the Drafts and Final Permit, the ambient monitoring provisions are referred to as "USDW Monitoring."

[4] The Region stated that it dropped the corrective action requirements, including plugging the Souza #2 well due to "the reduced injection volume" associated with the installation of

Draft Permit pts. II.C., at 9-10; II.E.2, at 17-18. The 2021 Draft Permit required no corrective action. Among other things, it required the drilling of one ambient monitoring well to perform chemical analysis and measure specific conductance and formation pressure near Silver Creek #18, the abandoned well closest to Panoche's injection wells.[5] *Compare* 2020 Pre-Publication Draft pts. II.C.1, at 9-10; II.E.2, at 18 *with* 2021 Draft Permit pts. II.C., at 9-10; II.E.2, at 17-18. The Fact Sheet accompanying the 2021 Draft Permit noted that the abandoned Silver Creek Well #18 penetrates through the Panoche injection formation and does not have a cement plug between the injection zone and the lowermost USDW. Fact Sheet at 6. The ambient monitoring requirement in the 2021 Draft Permit was in addition to other monitoring, recordkeeping, and reporting requirements, which are not contested in this matter.

The comment period for the 2021 Draft Permit opened on April 11, 2021, and closed on May 11, 2021. Region 9, U.S. EPA, *Permit No. CA10600001 Public Notice of Intent* (2021) (A.R. 59); Region 9, U.S. EPA, *Notice of Final Permit Decision* (Sept. 30, 2022) (A.R. 82). Panoche, the only commenter, filed comments opposing the ambient monitoring requirement for Silver Creek #18. Comment Letter from Ankur K. Tohan, K&L Gates, to Michele Dermer, Groundwater

---

Panoche's enhanced wastewater system "and associated reduction of the size of the AoR." Resp. to Cmts. at 6 (Cmt. #5).

[5] The 2021 Draft Permit added trace metals to the required chemical analysis. *Compare* 2021 Draft Permit pt. II.E.2., Monitoring Requirements subsection b, at 18 *with* 2020 Pre-Publication Draft pt. II.E.2.b, at 18.

Protection Section, EPA Region 9 (May 11, 2021) (A.R. 43) ("Panoche Comments").

D. Final Permit and Petition for Review

On September 30, 2022, the Region issued the Final Permit for a ten-year period, along with its response to comments document. Region 9, U.S. EPA, *Permit No. R9UICCA1-FY17-2R* (Sept. 30, 2022) (A.R. 84) ("Final Permit"); Resp. to Cmts. The Final Permit authorizes Panoche to inject industrial wastewater into the four existing wells and two potential wells subject to injection pressure and injection volume limitations. Final Permit at 4, 14; Fact Sheet at 2, 4. The Final Permit retained the ambient monitoring requirement from the 2021 Draft Permit, along with certain other monitoring, recordkeeping, and reporting requirements. Final Permit at 16-23. The USDW/ambient monitoring permit provision requires Panoche to (1) drill a monitoring well within 100 feet to the south-southwest of the Silver Creek #18 well; (2) equip the monitoring well with a transducer (to monitor pressure and specific conductance within the USDW) and water quality monitoring equipment (to allow sampling of the USDW); and (3) sample and perform baseline characterization of ground water chemistry. *Id*. pt. II.E.2 at 17-18.

Panoche filed a petition for review on October 28, 2022, challenging the inclusion of the USDW/ambient monitoring provision in Part II.E.2 of the Final Permit. And following extensions of time requested by the parties, briefing concluded on February 23, 2023, and the Board held oral argument via videoconference on March 30, 2023.

V. *ANALYSIS*

According to Panoche, this case is about two things: the lack of factual support for the Region's decision to require ambient monitoring, and the existence of record evidence undercutting such decision, which the Region ignored. The Region disagrees with both arguments. The Region maintains it had a rational basis for the ambient monitoring requirement related to the overpressured nature of the formation, unknown condition of the abandoned wells in the AoR, and the potential for fluid movement, and that it clearly explained its rationale to Panoche and the public, all of which is reflected in the administrative record.

What the record reveals is that the dispute in this case is not about whether the Panoche Formation is naturally overpressured. The record shows that it is, and Panoche acknowledged this fact in its permit application and during oral argument. 2019 Application §1.2, at 3 & attach. A at A-1, attach. C at C-1 to C-8 & tbl. C-1; Oral Argument Transcript 32 (Mar. 30, 2023) ("Oral Arg. Tr."). In fact, the dispute is not even about whether there is the potential for fluid movement into the USDW. Panoche specifically stated in its 2019 Application that with respect to Silver Creek #18, the abandoned well closest to the injection wells, "[t]he potential exist[s] for pressure to enter the wellbore and move fluids into the USDW." 2019 Application attach. C at C-7. The dispute is about whether, based on this administrative record, the Region can require ambient monitoring and other actions to ensure that there is no movement of fluid from the injection zone into the USDW.

For the reasons explained below, the Board concludes, after a thorough consideration of the administrative record and the arguments raised by the parties, that

Panoche has not carried its burden of demonstrating that the Region clearly erred or abused its discretion, or that review is otherwise warranted on any of the grounds presented.

A. Panoche Has Not Demonstrated that the Region Clearly Erred or Abused Its Discretion by Requiring Ambient Monitoring in the Permit

Following an extensive technical review and site-specific assessment of the Panoche Formation and the AoR, the Region explained it had two primary reasons for requiring ambient monitoring: (1) the Panoche Formation is naturally overpressured, such that any additional injection poses an increased risk of fluid migration through the old wells in the AoR that lack long string casing and cement plugs to isolate the injection zone from the base of the USDW;[6] and (2) Panoche's application contained modeling and estimates, but no empirical data directly addressing the current conditions of the abandoned wells within the AoR. Resp. to Cmts. at 2-3 (Cmt. #1); EPA Region 9's Response to Petition for Review 13 (Dec. 23, 2022) ("Resp. Br."). This resulted in uncertainty regarding the current condition of the abandoned wells in the AoR and an increased risk of potential fluid movement

---

[6] Casing is "a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas, or other fluid from entering or leaving the hole." 40 C.F.R. § 146.3. The Region explains that long string casing is a "type of casing which is continuous from at least the top of the injection interval to the surface, and which is cemented in place." EPA Region 9's Response to Petition for Review 6 n.6 (Dec. 23, 2022) ("Resp. Br.").

into the USDW. Resp. to Cmts. at 2-3 (Cmt. #1); Resp. Br. at 13.

According to the Region, the permit's ambient monitoring requirement "will provide information about the existence or absence of water quality or pressure changes" that can confirm if the project is operating as expected (i.e., no fluid movement is occurring along the boreholes in the abandoned wells in the AoR that could affect water quality in the USDW), or "provide early warning of potential endangerment to USDWs before any significant impact on water quality could occur. No other monitoring in the Permit provides the information on pressure or water quality changes in the USDW that is needed to provide early indication of fluid movement that could endanger a USDW * * *." Resp. to Cmts. at 3 (Cmt. #1).

As explained below, the Region's technical determination to require ambient monitoring is supported by the administrative record, including information Panoche provided, and is consistent with the UIC regulations and the Region's statutory obligation to ensure USDW protection. On the other hand, Panoche largely repeats comments it made previously and does not address the Region's response to comments document, or it raises new arguments not previously presented to the Region for consideration. Panoche has not met its burden of showing clear error or abuse of discretion for the Board to overturn the Region's well-documented technical determination. In fact, the record in this case reflects extensive technical reviews and shows that the Region duly considered the technical and other issues raised by Panoche in its comments and chose an approach that is rational in light of all the information in the record. Based on this

record, a denial of the petition is warranted. *See NE Hub Partners*, 7 E.A.D. at 568.

1. *The Administrative Record Supports the Region's Determination That There Is Potential for Fluid Movement From the Injection Zone into the USDW and the Ambient Monitoring Condition in the Final Permit*

a. Overpressured Formation

The record shows that the Panoche Formation is naturally overpressured, and, as noted above, Panoche acknowledges this fact in its 2019 Application and as recently as the oral argument. 2019 Application §1.2, at 3 & attach. A at A-1, attach. C at C-1 to C-8 & tbl. C-1; Oral Arg. Tr. at 32. Injection rates and volume limits in a UIC permit provide important elements of USDW protection. Resp. to Cmts. at 13 (Cmt. #13). Every year, Panoche injects millions of gallons of industrial wastewater into the Panoche Formation, s*ee id.*, and the permit authorizes Panoche to inject a maximum of 635,229 gallons per day or 232 million gallons per year.[7] Final Permit pt. II.D.4.a, at 14; Resp.

[7] The Final Permit establishes maximum daily injection rates for each of the wells, the sum of which amounts to a total of 635,229 gallons per day and 232 million gallons per year when multiplied by 365. Final Permit at pt. II.D.4.a, at 14; Resp. to Cmts. at 13 (Cmt. #13). Panoche expressly requested the maximum daily injection rates the Final Permit authorized. 2019 Application attach. H tbl. H-1; Oral Arg. Tr. at 35-36. In its reply brief, Panoche argues its air permit limits the amount of wastewater Panoche can generate for injection to 84 million gallons per year and that there is no scenario in which it would produce 232 million gallons of wastewater in a given year. Reply Br. at 6-7. We find this argument late and inaccurate and address it in Part V.A.2 below.

to Cmts. at 13 (Cmt. #13); Oral Arg. Tr. at 35-36. The Region explained that overpressured formations, like the Panoche Formation, present unique risks because subsurface pressures will continue to increase as injection activities occur. Resp. to Cmts. at 13 (Cmt. #13). Further, if the injection occurs when pressures are abnormally high, this can lead to new fractures or worsen existing ones that can serve as additional pathways for fluid migration and potentially endanger the USDW. Resp. Br. at 5 (citing Resp. to Cmts. at 13 (Cmt. #13) and U.S. EPA, *Class I UIC Program: Study of the Risks Associated with Class I Underground Injection Wells*, at 14 (Mar. 2001) (A.R. 49) ("Class I Wells Study")); Class I Wells Study at 14 (observing that faults or fractures may form naturally, may be created by the waste dissolving the rocks of the confining zone, or by injecting wastewater at excessive pressures). In other words, an overpressured formation increases the risk of upward fluid movement that could endanger USDWs. *See* Resp. to Cmts. at 13 (Cmt. #13); Oral Arg. Tr. at 32 (noting that in an overpressured formation fluids naturally would migrate).

The Region explained that in combination with the overpressured nature of the Panoche Formation, the presence of abandoned wells located in the AoR increase the risks of potential fluid movement from the injection zone into the USDW due to the age of the wells, their configuration and manner of plugging, and uncertainty about their current conditions. *See* Resp. to Cmts. at 5, 6-7, 8-11 (Cmts #4, 5, 9).

b. *Old-Abandoned Wells in the AoR Present a Reasonable Cause for Concern*

Abandoned wells present a potential pathway for fluid migration. Class I Wells Study at 14 ("[F]luids could potentially be forced upward from the injection

zone through transmissive faults or fractures in the confining beds which, like abandoned wells, can act as pathways for waste migration to USDWs"); Oral. Arg. Tr. at 42-43. Here, Panoche identified twenty abandoned wells within a three-mile radius of the Facility. *See* 2019 Application at attach. A tbl. A-1, attach. B at B-1. The abandoned wells in the AoR here were of particular concern to the Region because several, like Silver Creek #18, lack cement plugs between the top of the injection zone and the base of the lowermost USDW, penetrate the injection zone, and lack long string casing. Resp. to Cmts. at 7, 9-10 (Cmts. #6, 9); *see* 2019 Application attach A. tbl. A-1, attach. C at C-1 to C-8 & tbl. C-1. The abandoned wells in the AoR were also of concern to the Region because the condition of the mud used as a plugging agent is unknown. *See* Resp. to Cmts. at 2, 3-4, 9-10 (Cmts. #1, 2, 9-10).

The abandoned wells located within the AoR were plugged and abandoned decades ago. *See* Part IV.B above; June 2019 Technical Review Letter enclosure at 1; Reply Br. attachs. 2-5. The Region explained that "mud conditions and columns in wells abandoned decades ago can vary substantially, depending on well construction, depth of casing and plugs, formation pressures and permeabilities, and other factors." Dec. 2019 Technical Review Letter enclosure at 2; *see also* Barker Study at 89. Panoche's application did not provide empirical data on the condition of the mud, and as noted, Panoche later declined to provide empirical data in response to the Region's request. June 2019 Technical Review Letter enclosure at 1; Dec. 2019 Technical Review Letter enclosure at 2; Panoche Response to Dec. 2019 Technical Review Letter at 3.

In addition, some of the abandoned wells in the AoR lack long string casing or cement plugs between the

top of the injection zone and the base of the lowermost USDW and penetrate the injection zone. *See* Resp. to Cmts. at 7, 9-10 (Cmts. #6, 9); *see also* 2019 Application attach. A tbl. A-1, attach. C at C-1 to C-8 & tbl. C-1. Silver Creek #18, the closest of the abandoned wells in the AoR to the injection wells, was plugged and abandoned in 1974, Silver Creek #18 Plugging Records at 45, has no long string casing installed, no cement plug between the injection zone and the base of the USDW, and was abandoned with a lighter-weight mud than the mud in the next closest well.[8] Resp. to Cmts. at 5, 12 (Cmts. #4, 11); Resp. Br. at 6-7. The Region explained that "[t]he lack of long-string casing increases the risk of fluids migrating laterally through the injection zone and into the abandoned wells" and the lack of a cement plug at the base of the USDW amplifies that risk because if the fluid reaches Silver Creek, or any of the abandoned wells, there would be no effective barrier preventing upward migration into the USDW. Resp. Br. at 6. Furthermore, lighter mud is less resistant to pressure increases, Resp. to Cmts. at 5 (Cmt. #4), and potential fluid movement. *See* Oral Arg. Tr. at 50. As noted above, Panoche itself acknowledged the potential for pressure to enter Silver Creek #18 and move fluids into the USDW. 2019 Application attach. C at C-7; Resp. Br.at 6.

The Region's assessment of these multiple and interrelated site-specific factors pointed to a risk of

---

[8] The Region noted that the Silver Creek #18 well has a cement plug from 1,437 to 1,700 feet, and explained that while this plug may be protective of fresh-saltwater interfaces, no cement plugs were placed to isolate the injection zone from the base of USDWs to prevent fluid migration outside of the approved injection zone. Resp. to Cmts. at 12 (Cmt. #11). The base of the USDW is located at approximately 3,000 feet. 2019 Application attach. D at D-3.

potential USDW endangerment, a concern the Region needed to address in its permitting decision. *See* Resp. to Cmts. at 2-3 (Cmt. #1). The Region found its concerns about the uncertainty of the current condition of the wells supported by a U.S. Geological Survey study conducted in Utah. *Id*. at 10- 11 (Cmt. #9). The study states that: "in older wells that were not plugged and abandoned by current standards and procedures, or where the integrity of the cement and mud used to plug the wells has been compromised throughout time, [] water could potentially move uphole [] into the [] aquifer." U.S. Geological Survey, *Water-Resources Investigations Report 96-4155*, at 58 (1996) (A.R. 25) ("USGS Utah Study"); *see also id*. at 29-30 (similar language).

To eliminate uncertainty as to the condition and efficacy of the mud in the abandoned wells and to evaluate the risk of potential fluid movement, the Region, as noted above, requested empirical data on the current condition of the mud and pressures in Silver Creek #18 and the other abandoned wells in the AoR. *See*, *e.g.*, June 2019 Technical Review Letter enclosure at 1; Dec. 2019 Technical Review Letter enclosure at 2; Resp. to Cmts. at 5 (Cmt. #4); Resp. Br. at 6. Panoche did not provide the requested empirical data. Resp. to Cmts. at 6 (Cmt. #5). Instead, it reiterated its position that the abandoned wells were plugged consistent with procedures in place at the time the wells were abandoned decades ago. And Panoche estimated the mud column weight in each of the wells in the AoR and the pressure needed to overcome the mud weight and combination of gel strength and mud weight. It provided some studies that, among other things, discussed the relationship between gel strength and time, and the effectiveness and longevity of muds as plugging material. Panoche

further claimed that its Facility operation would not increase pressure within the injection zone because its Enhanced Wastewater System ("EWS") had reduced injection rates by up to eighty percent since its installation in 2016. *See*, *e.g.*, Letter from Ankur K. Tohan, K&L Gates, to David Albright, Groundwater Protection Section, EPA Region 9, at 2-3, 5-6 (Jan. 25, 2021) (A.R. 43e); Panoche Comments at 9-10 & attach. 7; Resp. to Cmts. at 8-11 (Cmt. #9).

After extensive review of the information Panoche provided, the Region found Panoche's submissions misplaced and unpersuasive. As noted above, it observed that compliance with the procedures in place at the time the wells were abandoned does not provide information about the present condition of the mud, decades later, and whether that mud can prevent the potential movement of fluid into a USDW in an already overpressured injection zone. Resp. to Cmts. at 6-7 (Cmt. #5). It also found that Panoche's modeling did not accurately represent the condition of the mud within the AoR. *See*, *e.g.*, *id.* at 9 (Cmt. #9). It explained that Panoche did not calculate or otherwise determine the gel strength within the AoR, but rather, Panoche had "assigned the pressure needed at each borehole to exceed an assumed gel strength that is based on studies of other wells." *Id*. And the estimates that Panoche used were not based on "empirical data about any of the wells in the AoR of the injection wells, including Silver Creek #18 well." *Id.* (noting that while the assumed gel strength value Panoche used was on the conservative side of the values identified in the Barker Study upon which Panoche relied, the value is still an estimate based on assumptions). The Region also found the studies cited by Panoche to be of little relevance and applicability because they addressed mud strength at other locations, and none of them

provided site-specific information that addressed all of the characteristics of the site. *Id.* at 8-11 (Cmt. #9); Resp. Br at 15. The Region's assessment of the studies on which Panoche relied is described in its technical review as noted above, and at length in the response to comments document. The Region explained that the studies Panoche submitted to support the conservative nature of its mud strength evaluation described wells in other states, *e.g.*, Panoche Comments attachs. 7.1 & 7.11(studies of wells in Texas), or non-injection applications that do not involve pressure buildup due to injection of fluids, *e.g.*, Panoche Comments attach. 7.12 (study of the Waste Isolation Pilot Plant in New Mexico).[9] Resp. to Cmts. at 10 (Cmt. #9). Others, *see* Panoche Comments attachs. 7.2, 7.3, 7.10, 7.14, 7.17, & 7.18, are general studies "of the characteristics and effectiveness of clay-based muds, but are laboratory studies, recommended practices, or general reviews," and the authors of some of these studies even acknowledged that the experiments cannot and were not intended to replicate long abandoned wellbore conditions, urging caution in applying their results to a field setting. Resp. to Cmts. at 10 (Cmt. #9) (citing Panoche Comments attach. 7.10); *see*, *e.g.*, Barker Study at 89 ("Since the gel strength varies with the mud type and the conditions that act on the mud it is difficult to determine the exact gel strength of the mud in a particular abandoned well bore."); *id*. at 113 ("The 20 lb/100ft^2 ultimate gel strength was arbitrarily selected [in this study] to insure that a sufficient safety factor is built into the proposed procedure. The selection is the result of individual judgment prejudiced by the above discussion [in the study]"); R.E. Collins and

[9] *See also* attachs. 7.7, 7.8, 7.19 (other studies from wells in Texas).

D. Kortum, *Drilling Mud as a Hydraulic Seal in Abandoned Wellbores*, at 8 (1989) (A.R. 43u) ("Collins Mud Study") ("direct application of this result to actual wells should be used with caution"); *see also* Panoche Energy Center, LLC Petition for Review attach. 11, at 136 (Oct. 28, 2022) ("Pet.") (same study). The Region also found that the studies Panoche submitted to assert the maintenance of gel strength over time, *e.g.*, Panoche Comments attachs. 7.10, 7.20, & 7.21, described laboratory studies that attempted to evaluate the effects of temperature, but did not "provide the site-specific empirical data to address uncertainties about the wells in the AoR at their current age, or their ability to withstand increased pressures in the injection zone." Resp. to Cmts. at 10 (Cmt. #9). Other studies, *e.g.*, Panoche Comments attachs. 7.7, 7.8, & 7.19, clarified that arguments about mud strength were predicated on the conditions described in the particular studies. *Id.* Studies, *e.g.*, Panoche Comments attachs. 7.8 & 7.16, cautioned that gel strength increases with time before leveling off and that "gel strength measured at the surface after a short period of quiescence will not be representative of downhole conditions in old, abandoned wells," and concluded that "the gel strengths in abandoned wells are not usually known." *Id*.

The Region also examined studies Panoche referenced that provided field evidence of the longevity of mud as a plugging material demonstrated during well reentries, *e.g.*, Panoche Comments attach. 7.19 (presenting field data from a well in Texas), and concluded that the studies cannot be cited as evidence of the proper plugging of the Silver Creek #18 well or other wells in the AoR. *Id*. With respect to the only report that Panoche provided that addressed wells in the vicinity of Panoche's Facility, Panoche Comments attach. 6 ("Mud Column Characteristics and Conditions in the

Cheney Ranch Field"), the Region concluded that the three wells that Panoche selected from the Cheney Field are not analogous to the wells in the AoR. *See* Resp. to Cmts. at 10 (Cmt. #9). Specifically, the Region noted that the mud in the Cheney Field wells was inside long string casing in two of the wells, and that the third well was "sidetracked" in 1973 and the mud was in the open borehole for only a few weeks. *Id.* By contrast, the Region explained that "the abandoned wells in the AoR were drilled and abandoned decades ago without long string casing, or adequate cement behind the casing to isolate the USDW and with uncertain mud conditions today."[10] *Id.*

Further, the Region considered and addressed comments by Panoche that implementation of the EWS has reduced pressures within the injection zone. The Region observed that while the data obtained from Panoche showed an 80% decline in injection volumes during the EWS's first year of operation, the same data showed an increase in volume the following

---

[10] The Region acknowledged that the information Panoche provided supports the notion that drilling muds *could potentially* prevent fluid migration and observed that its decision to eliminate the corrective action requirements took this into account. Resp. Br. at 16 (emphasis added). But the Region reiterated that the information does not provide empirical data on the present condition of the mud in the abandoned wells. Resp. to Cmts. at 9 (Cmt. #9); Resp. Br. at 16.

It also explained that even if the wells in the AoR meet current California plugging requirements, that fact would not be dispositive of USDW protection. *See* Resp. to Cmts. at 12 (Cmt. #11) (explaining that California's 2020 Onshore Well Regulations relate to the protection of fresh-saltwater interfaces, not USDWs). The Region also noted that it does not need to show that wells were improperly plugged to require ambient monitoring. *Id*. at 8 (Cmt. #8).

year, which has remained at that level. *Id*. at 13 (Cmt. #13). And Panoche provided no evidence to demonstrate that injection rates and volumes will continue to fall in the future. *Id*.

The uncertainty about the condition of the abandoned wells in the AoR and their ability to prevent fluid movement remained unresolved. The Region explained that "[w]ithout definitive information about the current condition of the mud, the impact of injection zone pressure increases on potential fluid movement cannot be ascertained to a level that ensures USDW protection." *Id*. at 9 (Cmt. #9). Therefore, the Region's technical judgment that ambient monitoring was necessary to provide empirical data on current conditions and potentially alert the permittee and the Region if injection activities are endangering the USDW, was reasonable and consistent with its obligations under the law. *See* SDWA § 1421(b)(1), (d), 42 U.S.C. §-300h(b)(1), (d); 40 C.F.R. §§ 144.1(g), .12, .55(a); *id*. § 146.13.

Recognizing the challenges related to mud sampling as originally proposed by the Region, and concerns expressed by Panoche that such sampling could potentially disturb the mud, the Region determined ambient monitoring to be the "best approach" to demonstrate that there is no potential endangerment to the USDW from Panoche's injection activities (and provide an early warning, as discussed below). Resp. to Cmts. at 9 (Cmt. #9); *see id*. at 2-3 (Cmt. #1); s*ee*, Dec. 2019 Technical Review Letter enclosure at 2-3; Resp. Br. at 8. The approach adopted by the Region is fully consistent with the SDWA's directives to prevent and protect USDWs from endangerment associated with underground injection activities. *See* SDWA § 1421(b)(1), (d), 42 U.S.C. § 300h(b)(1), (d); 40 C.F.R. §§ 144.1(g), .12(a). The statute focuses on the importance of

prevention and avoiding failures that would result in USDW endangerment. Thus, including permit conditions such as ambient monitoring, which are designed to detect potential endangerment, falls squarely within the objectives of and authority delegated under the statute. The approach is also consistent with the UIC regulations, which prohibit fluid movement into the USDW, require the permit applicant to demonstrate such movement is not occurring, and authorize the permitting authority to require monitoring to detect any migration of fluids into and pressure in the USDW, based on the potential for such fluid movement to occur. 40 C.F.R. §§ 144.12, 146.13(a)(1), (b), (d).

In light of all the above, we conclude that the Region articulated a rational basis in the record for the inclusion of ambient monitoring in the Final Permit.

c. *The Potential Value of the Ambient Monitoring Condition*

The Final Permit requires Panoche to drill a monitoring well near Silver Creek #18, and to measure pressure and conduct water quality sampling on an ongoing basis. Final Permit pts. II.E.2-6, at 17-23. It also requires Panoche to obtain baseline data of ground water chemistry. Our review of the record shows that the Region duly considered the potential value of monitoring near Silver Creek #18 as required by the ambient monitoring regulation, the usefulness of the information that will be generated, and the role of other monitoring conditions in the Final Permit.

The Region selected monitoring near Silver Creek #18 because of the abandoned well's proximity to the injection zone (about 1.25 miles to the northeast of the injection well), and its configuration and manner of plugging (i.e., Silver Creek #18 has no long string

casing, was abandoned with a lighter-weight mud than the mud in the next closest abandoned well, and has no cement plug between the top of the injection zone and the base of the USDW). Resp. to Cmts. at 5, 12 (Cmts. #4, 11). The Region anticipates the selected location would be the first place where an increase in subsurface pressures may be observed. *See id*. at 5 (Cmt. #4); Resp. Br. at 20. And because the Silver Creek #18 well was plugged in 1974 and there is uncertainty about the present condition of the mud and condition of the well, the Region considered monitoring near this well to be appropriate. *See* Resp. to Cmts. at 9 (Cmt. #9); *see also id.* at 11-12 (Cmt. #11) (explaining why Silver Creek #18 remained a concern to the Region even if it was abandoned in accordance with California Geologic Management Division ("CalGEM") regulations in place when the well was plugged in 1974).[11]

With respect to the potential value of the information that will be generated by monitoring near Silver Creek #18, the record shows that the Region expects the information will assist both the Region and Panoche in determining whether there is hydraulic communication between the injection zone and the USDW. *Id.* at 14 (Cmt. #14). According to the Region, this information will either confirm that the project is operating as expected or will provide early warning of potential endangerment to the USDW (i.e., by detecting potential hydraulic communication between the injection zone and the USDW). *See id.* at 3, 13, 14 (Cmts. #1, 13, 14); Resp. Br. at 20. The Region explained that monitoring near Silver Creek #18 would provide information on whether water quality or pressure

[11] *See also* note 10.

changes are occurring that could indicate an upward movement of fluid through the abandoned well and that information could be used to identify trends over time. If the abandoned wells are adequately plugged, no changes in the overlying formation should be observed when the injected fluids reach and pass the location of the abandoned wells. Resp. to Cmts. at 14 (Cmt. #14). By contrast, observed pressure changes would likely indicate fluids are moving upward along the borehole in the abandoned wells. *Id.* The Region explained that water quality may or may not change depending on the differences in the fluids in each formation. *Id.*; *see id.* at 13 (Cmt. #13).

The Region further explained that the ongoing pressure data and constituent monitoring results will be compared to the baseline data and that trends over time can provide an understanding of pressure and water quality conditions within the USDW. *See id.* at 14-15 (Cmt. #14); Resp. Br. at 20. The Region also addressed comments questioning how the pressure and constituent monitoring data will be used to identify issues resulting directly from Panoche's injection activities and not from other activities, such as other water wells, irrigation wells, or pressure decreases due to large-volume groundwater withdrawals in the Fresno Irrigation District. *See* Resp. to Cmts. at 14 (Cmt. #14). In its response to comments document, the Region observed that because of the depth of the USDW (1,930 feet below the surface) "any changes would likely be associated with a deficient wellbore" in the AoR, that "it is unlikely that infiltration from the surface* * * would affect water quality nearly 2,000 feet below the surface," and that any changes would likely be the result of subsurface activity. *Id.* at 15 (Cmt. #14).

Finally, the Region explained that ambient monitoring will produce data that are different from what will be produced by the other monitoring provisions in the Final Permit, and that together these monitoring provisions will provide the data needed to ensure protection of the USDW. *See id.* at 2-4 (Cmts. #1, 2); Resp. Br. at 21-22 & n.14-15. In addressing Panoche's comments, the Region explained that while Permit Conditions II.C.1 and II. D.2 are significant monitoring requirements that will provide information about the conditions at the location of the injection wells, they do not provide data or other information about the strength of muds in the Silver Creek #18 well or about potential pressure changes or water quality impacts in nearby USDWs.[12] Resp. to Cmts. at 2-4 (Cmts. #1, 2); Resp. Br. at 21- 22. The Region also observed that it has required USDW/ambient monitoring in other Class I permits, like it did here. Resp. to Cmts. at 8 (Cmt. #7).

The record shows that the Region addressed and considered the arguments Panoche raised during the comment period about the location and potential value of the ambient monitoring condition along with the role of the other monitoring conditions in the Final Permit.

In sum, the Region articulated why any injection could disrupt the already overpressured Panoche Formation, why the estimates Panoche provided to support its position that the mud was strong enough to eliminate the risk of fluid migration were not

---

[12] Permit Condition II.C.1 requires Panoche to review the zone of endangering influence calculation on an annual basis, and II.D.2, requires mechanical integrity testing of the injection wells. Final Permit at 10, 11-13.

persuasive, and why ambient monitoring near Silver Creek #18 was appropriate within the meaning of the ambient monitoring regulation. Uncertainties as to the condition of the wells in the AoR remain. Panoche's disagreements are technical disagreements and a disagreement as to how the Region exercised its considerable discretion with respect to developing a monitoring plan. *See Peabody*, 12 E.A.D. at 50-51. These disagreements do not amount to clear error or an abuse of discretion. *NE Hub Partners*, 7 E.A.D. at 570.

2. *Panoche's Petition Does Not Address the Region's Response to Comments Document, the Arguments Are Without Merit, and Some of the Arguments Are Untimely*

On appeal, Panoche claims that it demonstrated there will be no fluid movement from the injection zone into the USDW and the Region ignored the existence of record evidence that undercuts its decision. Pet. at 19-23; Reply Br. at 6-10; Oral Arg. Tr. at 8. We disagree. Many of Panoche's arguments in the petition repeat comments raised on the 2021 Draft Permit, do not address the Region's response to comments document, and are untimely. In any event, all of the arguments fail on the merits.

Panoche states it provided the Region with the following information that it argues demonstrates there will be no fluid movement, namely that: the injection zone goes deeper than 7,100 feet with two confining layers and an intervening buffer aquifer; every well within the AoR has sufficient mud column weight to resist fluid entry; Silver Creek has 10.03 pound per gallon mud between the injection zone and the lowermost USDW; the Panoche Formation pressure would need to exceed 4,007 psi to displace the mud and

4,054 psi to displace the mud and gel strength in Silver Creek; Panoche applied a conservative approach in its AoR and endangerment analysis; implementation of its EWS has reduced injection volumes by approximately 70-80% and pressure in the injection formation; and its air permit limits its ability to operate the Facility, resulting in an estimated maximum injection volume of 84 million gallons/year. Pet. at 19-20. According to Panoche, these factors led the Region to conclude that there is no potential for movement of fluid from the injection zone into a USDW and therefore no corrective actions are needed under the Final Permit. *Id*. at 20. In addition, Panoche argues that the ambient monitoring condition is not rational and will not provide advance warning of fluid movement. *Id*. at 26-29; Reply Br. at 18. Panoche makes these arguments despite acknowledging that there is the potential for fluid movement from the Silver Creek #18 well into the USDW, and ignores the Region's response to comments document, and explanation, discussed below, for why it decided to require ambient monitoring rather than corrective action in the Final Permit at this time.

a. *The Region Considered and Addressed Panoche's Comments and Panoche Failed to Address the Region's Responses or Otherwise Demonstrate Clear Error or Abuse of Discretion*

As discussed in Part V.A.1 above, the Region found that neither Panoche's modeling nor the studies, laboratory data, and other information Panoche provided described the current condition of the mud in the abandoned wells in the AoR (*e.g.*, strength of mud column); addressed uncertainties about the conditions of the wells in the AoR or their ability to withstand

increased pressures in the injection zone; or provided direct proof that the mud in the abandoned wells in the AoR had retained its ability overtime to suppress fluid movement. *See* Resp. to Cmts. at 6, 8-11, 13, 14 (Cmts. # 6, 9, 13, 14). Moreover, the Region found support in some of those studies for its decision to require site-specific empirical data. *Id*. at 10 (Cmt. #9) (*e.g.*, identifying studies that cautioned about applying laboratory data to field settings, observed that gel strength varies with mud type and condition of the mud, making it difficult to determine exact gel strength, and acknowledged that gel strengths in abandoned wells are not usually known).[13] The record also shows that the Region considered and addressed Panoche's comments related to the impact of the EWS on injection volumes and pressure in the injection formation, and responded to questions about the information that would be obtained from ambient monitoring and the water quality data. *See id.* at 6, 13, 14 (Cmts. #6, 13, 14). Panoche's petition does not address the Region's response to comments document on these points. Instead, Panoche attempts to shift its burden, reiterates its earlier comments on the 2021 Draft Permit, mischaracterizes the Region's rationale for rejecting Panoche's modeling and eliminating corrective action from the 2020 Pre-Publication Draft,

---

[13] *See*, *e.g.*, Collins Mud Study; Clark, P.W. Papadeaus, D.K. Sparks, and R.R. McGowen, *Gulf Coast Borehole Closure Text Well Orangefield, Texas* (Oct. 1991) (A.R. 43s); O.C. Johnson& B.K. Knape, *Pressure Effects of the Static Mud Column in Abandoned Wells* (Sept. 1986) (A.R. 43aa).

and raises new arguments in its petition and reply brief.[14] We address Panoche's arguments in turn.

---

[14] Panoche's argument related to the limits in its air permit was not raised in its comments on the 2021 Draft Permit, but the Region addressed them in its response brief.

Panoche also argues that the Region did not address "*any* of the geologic features *of this particular site* that provide further protection to USDWs," and ignored "evidence in the record that these types of rock will naturally close and seal abandoned wellbores." Reply Br. at 9 (emphasis in original) (citing Pet. at 8, 12-13). Contrary to Panoche's claim, the record reflects that the Region considered the geology of the Panoche Formation in its decision-making. *See*, *e.g.*, May 2018 Technical Review Letter at 3-4; Resp. to Cmts. at 2 (Cmt. #1); Resp. Br. at 4 (observing that it "conducted a thorough site-specific assessment of the Facility's operations and injection activities, along with the geology of the injection and confining zones"); *see also* Oral Arg. Tr. at 70 (articulating how artificial penetrations weaken the benefits of the confining layer and the aquifer). In light of the overpressured condition of the Panoche Formation, the abandoned wells and uncertainty about their condition, the Region did not find that the confining layers and buffer aquifer would provide the safeguards Panoche claims. *See* Resp. to Cmts. at 2 (Cmt. #1); Oral Arg. Tr. at 70.

We also note that Panoche's comment and arguments during the comment period focused on the impact of reduced injection volumes on pressurization of the Panoche Formation and the strength of the mud in abandoned wells, not on the geological features or confining layers as additional safeguards. *See* Panoche Comments at 9-10. Panoche's comment letter mentioned "confining layers," but it did so in the context of the pressure in the Panoche Formation. *Id*. at 35 ("Given that there are 1,000s of feet of confining layers between the USDW and the Injection zone, with intervening pressure bleed-off zones, how will EPA account for that decrease in pressure with the proposed monitoring condition for the Silver Creek #18 well?"); *see* Oral Arg. Tr. at 83. The Region considered and addressed the actual comment Panoche raised. *See* Resp. to Cmts. at 13-14 (Cmt. #13) (interpreting comment as focused on "how the pressure dissipation will affect pressure monitoring and constituent monitoring results").

b. *The Permittee Bears the Burden of Demonstrating That Injection Activities Will Not Be Conducted in a Manner That Allows Movement of Fluid into the USDW*

In its petition, Panoche argues that the Region's concerns about the condition of the abandoned wells in the AoR is based on speculation without factual foundation, or site-specific record evidence. Pet. at 20-23. It states that the Region relied on speculation, "unsupported by any site-specific record evidence or analysis" that older muds in properly plugged wells may fail. *Id*. at 21.[15] Along these lines, Panoche argues that the Region did not provide one example of older drilling muds failing. Reply Br. at 12; Oral Arg. Tr. at 32-33. But as shown in Part V.A.1, the administrative record fully supports the Region's concerns about the condition of the abandoned wells, in particular the condition of Silver Creek #18. *See also* Resp. to Cmts. at 2-3 (Cmt. #1). To the extent that Panoche is attempting to flip its burden of showing that its injection activities will not endanger the USDW, we

[15] Panoche also asserts that EPA's "speculative concerns are legally insufficient to impose costly monitoring requirements." Reply Br. at 10 (citing *In re Stonehaven*, *Energy Mgmt. L.L.C.*, 15 E.A.D. 817, 830-31 (EAB 2013) and *Amerijet Int'l, Inc. v. Pistole*, 753 F.3d 1343, 1350 (D.C. Cir. 2014)); *see generally* Pet. at 21-23. As discussed in Part V.B below, cost is beyond the scope of the UIC program and Board review. And neither case cited by Panoche provides support for its claims. Unlike in *Stonehaven*, the record here provides a rational basis for the Region's decision to require ambient monitoring, and *Stonehaven* does not discuss the cost of monitoring wells. *Amerijet* addresses Transportation Security Administration denials of airline requests for alternative security procedures and has nothing to do with cost consideration or the UIC program. *Amerijet*, 753 F.3d at 1345-1346.

note that this is contrary to the permit applicant's burden set forth in 40 C.F.R.§ 144.12(a). The burden of showing that injection activities will not be conducted in a manner that allows the movement of injection fluid into USDWs, rests on the permit applicant, not the Region. 40 C.F.R. § 144.12(a).[16] Furthermore, the Region is neither required to demonstrate that a well is improperly plugged and abandoned, nor to provide examples of abandoned wells that have failed, as a precondition to, or justification for, requiring ambient monitoring in a Class I UIC permit. *Id.* § 146.13(b), (d). The Region has an obligation to prevent and protect USDWs from endangerment associated with underground injection activities and need not wait until a well abandoned decades ago in an overpressured formation fails or facilitates fluid movement before taking steps to detect or prevent endangerment. *See* SDWA § 1421(b)(1), (d), 42 U.S.C. § 300h(b)(1), (d); 40 C.F.R. §§ 144.1(g), .12(a).[17] Panoche has not met its burden of showing clear error or abuse of discretion.

---

[16] At Oral Argument, counsel for Panoche agreed that this burden lies with Panoche. Oral Arg. Tr. at 18.

[17] In its response brief, the Region cites to 40 C.F.R. § 144.12(b) for the proposition that it has an obligation to impose permit conditions that will ensure that USDWs remain protected, and that in a situation where a permit applicant does not provide evidence to conclusively redress a known risk, the Region may require additional monitoring. Resp. Br. at 19. Panoche argues that the Region erred in citing to section 144.12(b) for support, because this is not a situation where there is actual movement of fluid into the USDW. *See* Reply Br. at 19. We find no clear error in the Region's statement. The Region cites section 144.12(b) for the proposition that it has a regulatory obligation to protect USDWs, which the provision supports. *See* 40 C.F.R. § 144.12(b). The Region is not claiming that the abandoned wells in the Panoche

c. *A Permittee Must Do More than Reiterate Its Comments, It Must Address the Region's Response to Comments Document and Explain Why the Response Was Clearly Erroneous or Otherwise Warrants Review*

In addition to the arguments discussed above, the petition repeats, without more, the comments Panoche raised on the 2021 Draft Permit that the studies and other information it provided show that mud retains its properties over time and that the wells were properly plugged when they were abandoned. Pet. at 21-22 (claiming that the results of the laboratory and field studies it provided like the "Mud Column Characteristics and Conditions in the Cheney Ranch Field" apply to the abandoned wells in the AoR.); Reply Br. at 4, 10-11 (stating that "all of [the] wells within the AoR were properly plugged and abandoned"). As discussed in Part V.A.1 above, the Region explained at length why the Cheney Study and other laboratory studies Panoche provided are not relevant. Resp. to Cmts. at 8-11 (Cmt. #9). The Region also identified flaws in Panoche's modeling (*e.g.*, it was based on estimates and assumptions, not on empirical data about the mud in wells in the AoR). *See id.* at 9, 11 (Cmts. #9, 10). And the Region explained that the manner of plugging at the time of abandonment says nothing about the current condition of the mud in wells that were abandoned several decades ago, *see id.* at 12 (Cmt. #12), and that the Silver Creek #18 well was abandoned with lighter mud than the next closest well and lacked cement plugs between the top of the

---

Formation are currently showing movement of contaminants into the USDW from the injection zone.

injection zone and the base of the USDW, *id*. at 5, 12 (Cmts. #4, 11).

Panoche does not address the Region's responses to these comments in its petition. Rather, it calls into question the relevance of the USGS Utah Study to the matter at hand, claims that all the wells within the AoR have cement plugs and certification records from CalGEM documenting that they were properly plugged and abandoned, and asserts that the Region "did not assess the additive benefits of those features." Pet. at 23-26. But as the Region explained and the record shows, the USGS Utah Study is not the only piece of information the Region considered. Resp. Br. at 18 n. 13. As shown in Part V.A.1 above, and as noted by the Region, it considered site-specific factors, including the presence of old-abandoned wells near the Facility that lack long string casing and cement plugs between the top of the injection zone and base of the USDW, and the overpressured condition of the Panoche Formation. *See also id*. The USGS Utah Study supports the notion that old wells that may have been improperly plugged and abandoned by current standards, or where the integrity of the mud may have been compromised over time, provide a potential pathway for fluid migration into a USDW. Resp. to Cmts. at 10- 11 (Cmt. #9); USGS Utah Study at 29-30, 58; *id*. at 30 (providing examples of old abandoned wells that exhibited signs of potential fluid migration upward in plugged wells).[18] Here, the

[18] Panoche dismisses the examples the Region points to in the USGS Utah Study, arguing that there is no evidence of similar pooling at the wells within Panoche's AoR, and that there is no evidence that the integrity of the muds used to plug and abandon the AoR wells has been compromised. Pet. at 25. But Panoche continues to miss the point; the Region is not claiming that there is fluid movement, but that the old wells in the AoR pose a risk,

abandoned wells were plugged several decades ago, and the Region reviewed the well records Panoche provided and correctly concluded that they do not provide data on the current condition of mud. *See* Resp. to Cmts. at 2-3, 8-9 (Cmts. #1, 9). Also, the record shows that the Silver Creek #18 cement plugs Panoche references are not located in a position to protect the USDW from fluid moving from the injection zone.[19] The Injection Zone is between approximately 6,500-8,500 feet, the base of the USDW is at approximately 3,000 feet, *see* Pet. at 9 fig., and the plugs in Silver Creek #18 are no lower than 1,700 feet. *See* Silver Creek #18 Plugging Records at 47; Resp. to Cmts. at 12 (Cmt. #11).

Panoche's argument that operation of its EWS reduced injection rates by 80 percent and has contributed to a decrease in formation pressures, Pet. at 13-14, 20; Reply Br. at 6, 14, is also a reiteration of comments the Region considered and responded to in the response to comments document, that Panoche's petition does not address. *See* Part V.A.1 above; Resp. to Cmts. at 13 (Cmt. #13) (explaining that the data obtained from Panoche showed an increase in wastewater volume the year after EWS implementation and has remained at that level and that Panoche provided no evidence to demonstrate that injection rates and volumes will continue to fall in the future); *id*. at 6 (Cmt. #5) (the Region eliminated the corrective action requirement contemplated under the 2020 Pre-

---

that there is uncertainty and the potential for fluid movement, and the risk needs to be evaluated and monitored.

[19] *See* note 8 above.

Publication Draft in light of the reduced injection volume associated with installation the EWS).[20]

Likewise, Panoche's arguments that there is no nexus between the Region's concerns and the water quality data Panoche is required to obtain, and that water quality testing would not indicate one way or another whether a borehole plug has failed, Pet. at 26; Reply Br. at 18-19, do not address the Region's explanation in the response to comments document about the value of water quality testing. As shown in Part V.A.1, the information obtained under the ambient monitoring condition will assist in determining whether there is hydraulic communication between the injection activities and the USDW. The information will help to determine if water quality changes are occurring that could indicate an upward movement of fluid through the abandoned well and to identify trends over time. The fact that the Region observed that water quality may or may not change depending on the differences in the fluids in each formation, *see* Resp. to Cmts. at 14 (Cmt. #14), does not negate the utility of water quality testing. As the Region noted, trends over time can provide an understanding of water quality conditions within the USDW. *Id.* at 14-15 (Cmt. #14); *see* Resp. Br. at 20.[21]

---

[20] At oral argument, counsel for Panoche pointed to a chart in the Petition on page 15, as evidence that it had "addressed" the Region's response on this point. Oral Arg. Tr. at 40. That chart, however, confirms the Region's observation in the response to comments document that injection volumes increased after the first year of the EWS, which Panoche's Petition does not address.

[21] We also find that Panoche repeats its comment that mischaracterized the Region's position and reasoning for eliminating the corrective action requirement included in the 2020 Pre-Publication Draft. The Region explained that following

As stated in other cases before the Board: "[i]t is not enough to reiterate comments that were previously submitted during the public comment period without explaining why the Region's response was insufficient." *In re City of Keene*, 18 E.A.D. 720, 753 (EAB 2022) (citing 40 C.F.R. § 124.19(a)(4)(ii)). The failure to address the Region's response to comments document on such central issues is fatal. *See id*. (citing *City of Taunton*, 17 E.A.D. at 154; *In re City of Pittsfield*,

---

technical discussions with Panoche, and in light of the reduced size of the AoR and reduced injection volume associated with the EWS, it eliminated the plugging requirements for Souza #2 but retained ambient monitoring near Silver Creek #18, the well closest to the injection wells, to provide early detection of fluid movement. Resp. to Cmts. at 6, 12 (Cmts. #5, 12). With respect to Silver Creek #18 and the AoR, the Region explained that Panoche had not provided the Region with sufficient empirical data to show that the Silver Creek #18 well remains plugged with appropriately strong mud that has not degraded in the decades since it was plugged. In arriving at its determination, the Region "reviewed and considered, for each well in the AoR: completion and plugging records, abandonment procedures in effect at the time the well was abandoned, and hydraulic connections with USDWs." *Id*. at 12 (Cmt. #12). The Region further observed that the plugging certificates for the Silver Creek #18 well are from 1974 and "do not provide confirmation that the present-day conditions of the mud, four decades later, are strong enough to prevent the potential movement of fluid into a USDW, especially as pressures increase in the injection zone." *Id*. at 6-7 (Cmt #5). And the Final Permit makes clear that the Region may require corrective action in the future. Final Permit pt. II.C.2., at 10; Resp. Br. at 16 n. 10. Elimination of the corrective action requirement does not contradict or address the Region's concern about potential fluid movement associated with Silver Creek #18. As discussed above, the Region identified the potential for fluid movement, addressed it with the inclusion of the ambient monitoring provision in the Final Permit and provisions to determine the potential need for future corrective action. *See* Final Permit pts. II.C., at 10, II.E., at 17-18.

NPDES Appeal No. 08-19, at 10-11 (EAB Mar. 4, 2009) (Order Denying Review), *pet. for review denied*, 614 F.3d 7 (1st Cir. 2010)). Simply disagreeing with the Region and repeating concerns in a petition for review before the Board that previously were presented to and answered by the Region does not satisfy the regulatory requirement that petitioners address the Region's responses and explain why said responses were clearly erroneous or otherwise warrant Board review. *City of Keene*, 18 E.A.D. at 753; *In re Windfall Oil & Gas, Inc.*, 16 E.A.D. 769, 797 (EAB 2015).

Based on the foregoing, we find that Panoche has failed to provide grounds for the Board to find clear error or an abuse of discretion for the Region's decision to require ambient monitoring near the Silver Creek #18 well and testing for pressure and water quality at that location. We again observe that the UIC regulations give the Agency considerable discretion in determining an acceptable ambient monitoring program, and the Board typically defers to the Region on matters that are technical in nature, such as monitoring issues. *See* 53 Fed. Reg. at 28,141, 28,145; *NE Hub Partners*, 7 E.A.D. at 567-68, 580-81; *City of Keene*, 18 E.A.D. at 724; *Peabody*, 12 E.A.D. at 50-51 (noting the Board's deference to "Regional decisionmakers on technical matters in general and monitoring issues in particular"). In addition, the record shows that the Region duly considered any competing technical opinions. *See NE Hub Partners*, 7 E.A.D. at 568.

d. *Panoche Raises New Arguments in Its Petition and Reply Brief*

Panoche raises a new argument in its petition that was not raised in its comments on the 2021 Draft Permit and raises new arguments in its reply brief.

Petitioners must raise specific arguments during the public comment period to preserve the arguments for review. This is "a particularly important requirement as to technical issues * * * because 'the locus of responsibility for important technical decisionmaking rests primarily with the permitting authority, which has the relevant specialized expertise and experience.'" *In re Tucson Elec. Power*, 17 E.A.D. 675, 690 (EAB 2018) (citing *Peabody,* 12 E.A.D. at 33). Furthermore, the Board has held that petitioners must raise arguments during the public comment period even where comments have been repeatedly raised prior to the comment period. *Gen. Elec. Co.*, 17 E.A.D. at 583 (explaining that requiring the Region to "respond to all comments it 'knew' about – whenever they were filed – would be especially harsh * * * given the Region's extensive efforts at outreach to the public" between the start of the permit process and release of the draft permit). The failure to preserve issues and arguments for Board review is a fatal flaw. *See* 40 C.F.R. § 124.13; *City of Keene*, 18 E.A.D. at 743 n.19. And a petitioner may not raise new issues or arguments in the reply brief. 40 C.F.R. §§ 124.13, .19(c)(2); *City of Keene*, 18 E.A.D. at 747, 754, 760. The following arguments advanced by Panoche are rejected on these grounds. Moreover, as explained below, even if considered on the merits none of these arguments would demonstrate clear error or an abuse of discretion.

For the first time in its Petition, Panoche argues that its air permit limits its operations to a level that would not result in enough formation pressure to overcome mud, gel strength, cement plugs, and a steel plate over Silver Creek. Pet. at 28. Panoche could and should have raised this argument in its comments on the 2021 Draft Permit and failed to do so. Not only is this argument untimely, and should not be considered for

that reason alone, it would be without merit if considered on substantive grounds. The Region addresses these alleged limitations in its response brief, despite the fact that Panoche had not preserved the argument for Board review. *See* Resp. Br. at 19-20. In its response brief, the Region explains that Panoche's air permit "contains no provisions for the protection of USDWs," that the "UIC Permit does not limit P[anoche] from injecting more than 84 million gallons/year or preclude [it] from injecting industrial wastewater during periods when the Facility is not operating, such as injecting wastewater held in on-site wastewater collection tanks." *Id.* at 19. Panoche expands on this new argument in its reply brief and argues that the air permit limits the amount of wastewater Panoche can generate for injection to 84 million gallons per year. Reply Br. at 6- 7. It argues that there "is no scenario where [it] would produce 232 million gallons of wastewater in a given year." *Id.* at 7. And we observe that the 84 million gallons per year figure Panoche claims is the maximum it can inject is not supported by the record and does not represent the maximum daily injection volumes authorized by the Final Permit, which Panoche itself requested.[22]

---

[22] In its permit application, Panoche stated that the maximum daily injection volumes as seen in 2013 and 2014, which are the volumes Panoche requested and the Final Permit authorizes, "may occur when the EWS maintenance is required during a high electricity demand." 2019 Application attach. H tbl. H-1; Final Permit pt. II.D.4.A at 14. Also, the method Panoche used for determining the 84 million gallons per year figure relies on estimates that do not necessarily show a decline as Panoche purports. *See* Reply Br. at 7; Oral Arg. Tr. at 37-40. Specifically, this figure is dependent upon the amount of water produced per engine fired hours, and that amount fluctuated between 2016 and

And, for the first time in its reply brief, Panoche raises new arguments about the need for and value of long string casing. It argues that the lack of long string casing in the abandoned wells does not increase the risk of endangerment—rather that long string casing increases the risk of fluid movement, and the evidence the Region relies on to support its concern about the lack of long string casing in the abandoned wells contradicts the Region's position. *Id*. at 14-15. Panoche also argues that dry exploration wells, like the abandoned wells in the AoR, "typically do not have long-string casing" because it "would be uneconomical and pointless to insert long-string casings to the bottom of the wellbore" and "CalGEM regulations do not require the insertion of long-string casing in order to seal and abandon a well." *Id*. at 15. These arguments are untimely. Panoche could have raised them in its Petition but failed to do so. 40 C.F.R. § 124.19(c)(2); *City of Keene*, 18 E.A.D. at 747, 754, 760 (declining review of arguments raised in the reply brief for the first time that could have been raised in the petition but were not). In addition, the arguments would be without merit. With respect to the argument that long string casing increases the risk of fluid movement, Panoche's reply brief provides a truncated sentence from the Class I Well Study cited by the Region. Reply Br. at 15. But examination of the entire sentence supports, rather than contradicts, the Region's view on the importance of long string casing. *See* Class I Wells Study at 13 ("Contamination due to well failure is caused by leaks in the well tubing and casing or when injected fluid is forced upward between the well's outer casing and the well bore *should the well lose mechani-*

2022 with the peak of 4,200 gallons occurring just last year. *See* Reply Br. at 7.

cal integrity (MI). Internal mechanical integrity is the *absence* of significant leakage in the injection tubing, casing, or packer.") (italics added). With respect to the argument that the CalGEM regulations do not require long string casing in order to seal and abandon a well, Panoche again cites to the Onshore Well Regulations, which as noted earlier in this decision apply to fresh-saltwater interfaces not USDW, and therefore, as the Region noted, those regulation are not dispositive of USDW protection. Resp. Br. at 16 n.9.

Panoche further claims for the first time in its reply brief that the Region's actions violate EPA regulations and guidance because modeling is the foundation for how EPA assesses risk of endangerment; and when EPA promulgated the technical criteria and standards for the UIC program, it acknowledged that evaluating the efficacy of the program through the use of ground water-quality wells would be ineffective. Reply Br. at 19-20 (citing Water Programs; Consolidated Permit Regulations and Technical Criteria and Standards, State Underground Injection Control Programs, 45 Fed. Reg. 42,472, 42,499 (June 24, 1980)). With respect to modeling, Panoche argues that the UIC program is based on modeling to determine pressure and risk of endangerment and indicates that the Region's requirement for ambient monitoring in the Final Permit is somehow contrary to its own regulations and guidance.[23]

---

[23] Also, for the first time at Oral Argument, counsel for Panoche claimed that modeling is superior to the actual data from the field that would be gathered by a monitoring well, Oral Arg. Tr. at 78, and that modeling is the preferred approach to empirical data. *Id.* at 15. Not only are these arguments untimely, they are unsupported and in conflict with the UIC regulations that explicitly allow for ambient monitoring. 40 C.F.R. §§ 124.13, 146.13(d); *City of Keene*, 18 E.A.D. at 748; *City of Lowell*, 18 E.A.D. at 183 (rejecting argument as untimely when raised during oral argument). We

Id. at 19. Not only are these arguments untimely, but Panoche mischaracterizes the regulations, guidance, and the Region's position on modeling. As explained earlier, the Region found Panoche's modeling did not address its concerns for this site and the Region needs site-specific empirical data on current conditions. *See generally*, Resp. to Cmts. at 8-11, (Cmt. #9); Resp. Br. at 17; Oral Arg. Tr. at 51-52, 59-60. Obtaining site-specific empirical data about the USDW is one of the main reasons ambient monitoring was added to the regulations in 1988. *See* 40 C.F.R § 146.13(d)(1), (d)(2)(i), (d)(2)(iii)-(v); 53 Fed. Reg. at 28,141, 28,144-45). Furthermore, the Region's position is not about the adequacy of modeling in the larger UIC program context, but specifically about the modeling Panoche conducted. Oral Arg. Tr. at 44, 51-53; *see* Resp. to Cmts. at 3, 8-11 (Cmts. #2, 9). As to Panoche's reliance on the 1980 Federal Register notice to support its claim that monitoring wells are not effective and the Region's requirement for such a well is contrary to the regulations and guidance, the Federal Register referenced EPA's evaluation of different approaches to determine the efficacy of the UIC program as a whole, not ambient monitoring. *See* 45 Fed. Reg. at 42,472, 42,498-99. Further, the ambient monitoring requirement at issue here was incorporated into the UIC regulations in 1988, not 1980. *See* 53 Fed. Reg. at 28,118. In addition, the 1988 Federal Register explained that "[t]he question of what might prove effective at a given site depends on the hydrogeologic setting and the characteristics of the operation"; "ambient monitoring requirements should be site-specific"; and EPA has "discretion in determining an acceptable ambient moni-

---

further note that Panoche did not raise similar objections to the other monitoring provisions in the Final Permit.

toring program." *Id*. at 28,141. This argument, even if it had been timely raised, would be without merit.

B. Scope of Board Review

Panoche largely repeats its comment on the permit that the ambient monitoring requirement is "impractical, and potentially impossible" because it requires Panoche "to install the well on land it does not own or control and to expend millions of dollars to do so." Pet. at 29.[24] The Region cited to the SDWA and UIC regulations, as well as Board precedent holding that issues of property rights and access, as well as cost, are beyond the scope of the UIC program. Resp. to Cmts. at 4 (Cmt. #3); *see also* Resp. Br. at 22-23. Further, the Region explained that Panoche may be able to negotiate access to the area near Silver Creek #18. Resp. to Cmts. at 4 (Cmt. #3).[25] The Region also explained that

---

[24] Also for the first time in the reply brief, Panoche excerpts a portion of a preamble to a series of technical criteria and standards from 1980 to argue against the need to access adjacent property to install the monitoring well. Reply Br. at 21 (citing "Water Programs; Consolidated Permit Regulations and Technical Criteria and Standards; State Underground Injection Control Programs," 45 Fed. Reg. 42,472, 42,481 (June 24, 1980) ("EPA agrees that it is inappropriate for these regulations to require an applicant to perform actions which may not be within his legal ability, as a condition or recondition of obtaining a permit."). Not only is this argument untimely, 40 C.F.R. § 124.19(c)(2), even if we were to consider it on its merits, it would fail. The preamble predates the 1988 ambient monitoring provisions in the UIC regulations and is not relevant to the proceedings here. Moreover, the Region is not requiring the injection activity or any illegal access to property. And Panoche is not claiming it is legally prohibited from negotiating access to property.

[25] At oral argument Panoche indicated it had not made attempts to negotiate access with the property owner. Oral Arg. Tr. at 77.

the preamble to the 1988 rule acknowledged industry concerns regarding costs of ambient monitoring but noted that ambient monitoring was not expensive when compared to the information received. *Id*. at 7 (Cmt. #6) (citing 53 Fed. Reg. at 28,118); *see also* Resp. Br. at 24. The Region went on, however, to try to address Panoche's cost concerns by eliminating the corrective action requirement and substantially reducing monitoring conditions, including reducing the depth at which ambient monitoring must be conducted. Resp. to Cmts. at 7 (Cmt. #6); Resp. Br. at 24 n. 18. The Board finds that Panoche's concerns about property access and costs are beyond the scope of Board review.

The UIC permitting process is "narrow in its focus and the Board's review of the UIC permit decisions extends only to the boundaries of the UIC permitting program, which is limited to the protection of underground sources of drinking water." *In re Sammy-Mar, L.L.C,*, 17 E.A.D. 88, 98 (EAB 2016) (quoting *In re Bear Lake Props*., 15 E.A.D. 630, 643-44 (EAB 2012)). The SDWA and the UIC regulations establish the only criteria EPA may use in establishing permit requirements. *In re Envotech, L.P*., 6 E.A.D. 260, 264, 276 (EAB 1996); *In re Federated Oil & Gas*, 6 E.A.D. 722, 725 (EAB 1997). The Region is not required to take ownership of land into account before issuing a final UIC permit decision. *See In re Suckla Farms*, 4 E.A.D. 686, 694-95 (1993); *In re Archer Daniels Midland Co.*, 17 E.A.D. 380, 404 (EAB 2017) ("[a]ny available remedy for potentially impacted property rights or neighboring landowners lies elsewhere, and not in a challenge to [a] permitting decision."). Panoche offers the Board no reason to depart from this long-established precedent.

VI. *CONCLUSION*

The Safe Drinking Water Act is preventative in nature, and the UIC regulations provide the Region with the authority and discretion to require ambient monitoring in the Final Permit. The Board finds that, based on the administrative record, Panoche has not demonstrated that the Region clearly erred or abused its discretion in requiring ambient monitoring in the Final Permit, or that review is otherwise warranted. The Board denies the petition for review in its entirety.[26]

So ordered.

[26] We have considered all the allegations in the petition and deny review as to all of them, whether or not they are specifically discussed in the opinion.

APPENDIX D

United States Environmental Protection Agency
Underground Injection Control Program

FINAL PERMIT

Class I Non-hazardous Waste Injection Wells
Permit No. R9UIC-CA1-FY17-2R (the Permit)

Well Names: IW1, IW2, IW3, IW4, IW5, and IW6

Issued to:

Panoche Energy Center, LLC
43883 West Panoche Road
Firebaugh, CA 93622

TABLE OF CONTENTS

PART I. AUTHORIZATION TO INJECT 4

PART II. SPECIFIC PERMIT CONDITIONS..... 6

A. REQUIREMENTS PRIOR TO DRILLING, TESTING, CONSTRUCTING, OR OPERATING..... 6

1. Financial Assurance 6

2. Field Demonstration Submittal, Notification, and Reporting 6

B. CONDITIONS FOR EXISTING WELL AND FUTURE WELL CONSTRUCTION..... 6

1. Surface Location 6

2. Well Construction Details 7

3. Injection Formation Testing 7

4. Injection Interval..... 8

5. Monitoring Devices..... 8

6. Proposed Changes and Workovers 9
C. CORRECTIVE ACTION 9
1. Annual Zone of Endangering Influence Review 10
2. Implementation of Future Corrective Actions 10
D. WELL OPERATION 10
1. Required Demonstrations 10
2. Mechanical Integrity 11
3. Injection Pressure Limitation 14
4. Injection Volume (Rate) Limitation 14
5. Injection Fluid Limitation 15
6. Tubing/Casing Annulus Requirements 16
E. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS 16
1. Injection Fluid Monitoring Program 16
2. USDW Monitoring 17
Monitoring Well Installation – pursuant to 40 CFR §§ 146.13 (b) and (d) : 17
Monitoring Requirements 18
1. Monitoring Information 19
2. Monitoring Devices 19
3. Recordkeeping 20
4. Reporting 21
F. PLUGGING AND ABANDONMENT 23
1. Notice of Plugging and Abandonment 23

2. Plugging and Abandonment Plans 23
3. Cessation of Injection Activities..... 24
4. Plugging and Abandonment Report 24
G. FINANCIAL ASSURANCE REQUIREMENTS..... 25
1. Demonstration of Financial Assurance..... 25
2. Failure of Financial Assurance 26
3. Insolvency of Owner or Operator..... 26
H. DURATION OF PERMIT..... 27
PART III. GENERAL PERMIT CONDITIONS 27
A. EFFECT OF PERMIT 27
B. PERMIT ACTIONS..... 27
1. Modification, Revocation and Reissuance, or Termination..... 27
2. Transfers..... 28
C. SEVERABILITY 28
D. CONFIDENTIALITY..... 28
E. GENERAL DUTIES AND REQUIREMENTS 28
1. Duty to Comply..... 28
2. Penalties for Violations of Permit Conditions..... 29
3. Need to Halt or Reduce Activity Not a Defense..... 29
4. Duty to Mitigate 29
5. Proper Operation and Maintenance 29

6. Property Rights 29
7. Duty to Provide Information..... 29
8. Inspection and Entry..... 30
9. Submittal Requirements..... 30
10. Additional Reporting Requirements..... 31
11. Requirements Prior to Commencing Injection, Plugging and Abandonment Report, Duty to Establish and Maintain Mechanical Integrity..... 32
12. Continuation of Expiring Permit 32
13. Records of Permit Application..... 33
14. Availability of Reports..... 33

APPENDICES

APPENDIX A – Project Maps

APPENDIX B – Well Schematics

APPENDIX C – EPA Reporting Forms

APPENDIX D – Logging Requirements

APPENDIX E – EPA Region 9 UIC Pressure Falloff Requirements

APPENDIX F – EPA Region 9 Step Rate Test Procedure Guidelines

APPENDIX G – Plugging and Abandonment Plan

APPENDIX H – Operating Data

PART I. AUTHORIZATION TO INJECT

Pursuant to the Underground Injection Control (UIC) regulations of the U.S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (CFR) Parts 124, 144, 145, 146, 147, and 148,

Panoche Energy Center, LLC (PEC or the Permittee)
43883 West Panoche Road
Firebaugh, CA 93622

is hereby authorized, as owner and operator, and contingent upon Permit conditions, to operate an existing injection well facility. In April 2008, EPA issued UIC Program Permit CA10600001, authorizing the construction and operation of up to six (6) injection wells (IW1, IW2, IW3, IW4, IW5, and IW6). IW1, IW2, IW3, and IW4 were installed at the PEC site in 2009. This Permit authorizes continued operation of wells IW1, IW2, IW3, and IW4. The Permit also authorizes the construction and operation of up to two (2) potential additional wells, IW5 and IW6, with no change in injection volume or maximum allowable injection pressure.

The facility is in the southwest quarter of Section 5, Township 15 South, Range 13 East, approximately 16 miles southwest of the City of Firebaugh, California.

EPA authorizes the Permittee to continue operating the four (4) Class I wells conditioned upon the Permittee meeting the Monitoring Requirements set forth in Section II.E.2 of this Permit, and the Financial Assurance requirements set forth in Section II.G of this Permit. Injection operation of the permitted wells will continue to be limited to the maximum volume and pressure as established by the previously conducted

Step-Rate Test under EPA Permit No. CA10600001, and in accordance with terms and conditions in this Permit. If potential additional wells IW5 and/or IW6 are constructed during the term of the Permit, Financial Assurance requirements must be met prior to construction. No changes to the operating conditions or total volume injected and pressure limitations will be authorized if the additional wells are constructed.

The Permittee is limited to injecting into the four (4) wells fluids that consist of cooling tower blowdown water, reverse osmosis system reject water, evaporative cooler blowdown water, combustion turbine intercooler condensate, enhanced wastewater system (EWS) water, and oil/water separator discharge water associated with operations of a simple cycle power generation plant that consists of four natural gas-fired combustion turbine generators. If authorized, the fluids authorized to be injected into IW5 and/or IW6 will be identical to those listed above.

This Permit authorizes injection by Wells IW1, IW2, IW3, IW4 and potential additional Wells IW5 and IW6 to dispose of these wastewaters into the Panoche Formation at depths ranging between approximately 7,199 to 8,897 feet below ground surface. The Panoche Formation at the location of the wells has greater than 10,000 mg/L total dissolved solids and is confined above by the approximately 1,148-foot-thick Tierra Loma Member of the Moreno Formation and the 308 foot-thick Marca Member of the Moreno Formation.

All conditions set forth herein are based on 40 CFR Parts 124, 144, 145, 146, 147 and 148, and are regulations that are in effect on the date that this Permit is effective.

This Permit consists of thirty-three (33) pages plus the appendices, and includes all items listed in the Table of Contents of the Permit. Further, the Permit is based upon representations made by PEC 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 is issued for a period of ten (10) years unless the Permit is terminated under the conditions set forth in Section III.B.1 or administratively extended under the conditions set forth in Section III.E.12 of this Permit.

/s/ Tomas Torres
Digitally Signed by TOMAS TORRES
Date: 2022.09.30
15:38:07-07'00'
Tomás Torres, Director
Water Division, EPA Region 9

PART II. SPECIFIC PERMIT CONDITIONS

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

1. Financial Assurance

The Permittee's plugging and abandonment cost estimate and chosen financial assurance mechanism for the wells authorized by this Permit meet the requirements of 40 CFR § 144.52(a)(7).

2. Field Demonstration Submittal, Notification, and Reporting

a. Prior to each field demonstration required by and described in the following Section II.B.3.a., and the initial mechanical integrity tests required in Sections II.D.1.a., 2.a., and 2.b., the Permittee shall submit

plans for procedures and specifications to the EPA Region 9 Groundwater Protection Section for approval at a minimum of sixty (60) days prior to the planned demonstration. Submittals shall be made in accordance with Section III.E.9 of this Permit. No demonstration in the Sections listed above may proceed without prior written approval from EPA.

b. After receipt of approval of the Permittee's proposed field demonstrations in writing from EPA, the Permittee must provide notice to EPA in accordance with Section E.9.b. of this Permit at least thirty (30) days prior to performing any required field demonstrations.

c. Unless otherwise specified elsewhere in this Permit, the Permittee shall submit results of each such field demonstration required by Sections II.B. through D. to EPA within sixty (60) days of completion, unless otherwise directed by EPA (Refer to Part III.E.9.b).

B. CONDITIONS FOR EXISTING WELL AND FUTURE WELL CONSTRUCTION 1. Surface Location

The four (4) injection wells authorized by this Permit are located as follows:

Well IW1: Located at 36° 39' 2.321" N, 120° 35' 1.777" W
Well IW2: Located at 36° 39' 2.164" N, 120° 35' 5.637" W
Well IW3: Located at 36° 39' 2.264" N, 120° 35' 0.170" W
Well IW4: Located at 36° 39' 3.372" N, 120° 35' 9.076" W

The two (2) potential additional wells authorized by this Permit are proposed to be located as follows:

Well IW5: Located at 36° 39' 0.201" N, 120° 35' 1.069" W
Well IW6: Located at 36° 39' 0.248" N, 120° 35' 8.834" W

The facility is in the southwest quarter of Section 5, Township 15 South, Range 13 East, approximately 16

miles south-southwest of the City of Firebaugh, California.

2. Well Construction Details

Well schematics for the four (4) existing wells authorized by this Permit are contained in Appendix B of this Permit. The Permittee shall at all times maintain the wells consistent with these Well Schematics.

The Permittee shall submit updated Well Schematics for the proposed additional wells, IW5 and/or IW6, and must receive EPA approval prior to commencing drilling and construction of each of the wells. Appendix B contains draft Well Schematics for these potential additional wells, for informational purposes only.

3. Injection Formation Testing

a. Pressure Fall Off Test (FOT)

A. A FOT shall be performed approximately six (6) months after the permit becomes effective, if an FOT has not been conducted within the last six (6) months under the prior permit. If an FOT has been performed within six (6) months under the prior permit, the next FOT shall be performed one year after the prior FOT.

B. The Permittee shall conduct this FOT in either Well IW1, IW2, IW3, or IW4 as proposed in procedures submitted to EPA for approval to determine and monitor formation characteristics. The Permittee shall conduct the FOT after a radial flow regime has been established at an injection rate that is representative of the wastewater contribution to the well. The other injection wells shall either be inactive, or operated at a constant rate, prior to and during the FOT, in order to obtain reliable pressure data and accurate results. The Permittee shall conduct the FOT in accordance

with EPA Region 9 guidance found in Appendix E, and as follows.

C. The Permittee shall submit to EPA for review and approval a detailed plan for the FOT that is developed in accordance with EPA Region 9 guidance in Appendix E. Once EPA provides written approval of the test plan, the Permittee may schedule the FOT, providing EPA at least thirty (30) days' notice before the test is conducted. The final FOT report shall be submitted to EPA within sixty (60) days of test completion.

D. The Permittee shall use the test results to recalculate the Zone of Endangering Influence (ZEI), consistent with procedures set forth at 40 CFR § 146.6, and to evaluate whether any corrective action will be required (refer to Section II.C.). The Permittee shall include a summary of the ZEI recalculation with the FOT report.

E. After conducting the FOT required in Section II.B.4.b.1 above, the Permittee shall conduct a FOT within 9 to 15 months of the previous FOT thereafter following the same procedures described in Sections II.B.4.b.i. and ii. The Permittee may conduct the annual FOT in conjunction with the annual External Mechanical Integrity Test (MIT) demonstration, as required by Section II.D.2.a.iii.

F. The Permittee shall create a plot/graph of the latest static reservoir pressure of the injection zone and its cumulative behavior over time, the plot shall be included with the annual FOT report each year.

4. Injection Interval

Wells IW1, IW2, IW3, and IW4 are currently authorized to inject into the Panoche Formation, which

has greater than 10,000 mg/L total dissolved solids. Injection by the wells is only permitted into the Panoche Formation, within the depth range as depicted in the well schematics in Appendix B (i.e., at depths ranging between 7,199 and 8,897 feet below ground surface). Potential Wells IW5 and IW6 may be authorized to inject into the Panoche Formation, within the depth range as depicted in the draft well schematics in Appendix B (i.e., at depths ranging between approximately 7,500 and 9,000 feet below ground surface).

5. Monitoring Devices

The Permittee shall maintain in good operating condition at all times during operation of Wells IW1, IW2, IW3, and IW4, and the potential additional wells IW5 and IW6, the following monitoring devices:

a. A tap on the discharge line line shall be located to provide for representative sampling of all wastewaters being injected downstream of any chemical or physical water treatment and as approved in writing by the EPA Director or their delegated representative; and

b. Devices to continuously measure and record injection pressure, annulus pressure, flow rate, and injection volume, subject to the following:

i. Pressure gauges shall be of a design to provide:

(a) A full pressure range of at least fifty (50) percent greater than the anticipated operating pressure; and

(b) A certified deviation accuracy of five (5) percent or less throughout the operating pressure range.

ii. Flow meters shall measure cumulative volumes and be certified for a deviation accuracy of five (5)

percent or less throughout the range of injection rates allowed by the Permit.

6. Proposed Changes and Workovers

a. The Permittee shall give advance notice to EPA, as soon as possible, pursuant to and in accordance with 40 CFR § 144.51(l), of any planned physical alterations or additions to any of the wells authorized by this Permit, 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 EPA and may require a permit modification application under the requirements of 40 CFR § 144.39 or § 144.41. 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 EPA as minor permit modifications, consistent with 40 CFR § 144.41 and Section III.B.1 of this Permit.

b. For each well authorized by this Permit, the Permittee shall provide all records of well workovers, logging, or other subsequent test data to EPA within sixty (60) days of completion of the activity.

c. The Permittee shall submit all reports required by this Permit using the appropriate reporting forms (see Appendix C).

d. The Permittee shall perform a MIT on each well authorized by this Permit using the procedures set forth in Sections II.D.1.a. and II.D.2. within thirty (30) days of completion of workovers or alterations and

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

C. CORRECTIVE ACTION

Prior to granting authorization to inject under this Permit, the Permittee is not required to conduct any corrective action, in accordance with 40 CFR §§144.55 and 146.7. Determination of future corrective action and implementation is discussed below:

1. Annual Zone of Endangering Influence Review

Annually, beginning with the first FOT conducted under this Permit, the Permittee shall review the ZEI calculation based on any new data obtained from the FOT and static reservoir pressure observations required by Section II.B.3.a. The Permittee shall provide to EPA a copy of the modified ZEI calculations, along with all associated assumptions and justifications, with the next Quarterly Report, as required by Section II.E.6.c. This review shall address the Permittee's interpretation of the pressure and specific conductance monitoring and chemical analyses in the report required in Section II.E.6.e.

1. Implementation of Future Corrective Actions

a. If any additional wells are found within the modified ZEI referenced above, a list of the wells along with their locations and construction data shall be provided to EPA within thirty (30) days of their identification.

b. If required by EPA, the Permittee shall submit a plan for approval by EPA to re-enter, plug, and abandon the wells listed in Section II.B.1., above, in a way that

prevents the migration of fluids into a USDW. The Permittee may submit an alternative plan to address the potential for fluid migration in any of these wells to EPA.

c. Corrective action may be required after permit issuance to address any wells within the area of review that may allow migration of fluids into underground sources of drinking water. EPA will use the annual FOT results and re-calculation of the ZEI, along with USDW monitoring results from the monitoring well, as described in Section V. Monitoring, Recordkeeping, and Reporting of Results below, to determine the potential need for any future corrective action.

d. The Permittee shall not commence corrective action activities without prior written approval from EPA.

D. WELL OPERATION

1. Required Demonstrations

a. Mechanical Integrity

i. Within one (1) year of the most recent mechanical integrity testing conducted under the existing EPA Permit No. CA10600001, the Permittee shall conduct an MIT to demonstrate that each well authorized by this Permit has mechanical integrity consistent with 40 CFR § 146.8 and with Section II.D.2.a. The Permittee shall demonstrate that there are not significant leaks in the casing and tubing (internal mechanical integrity) and that there is not significant fluid movement into or between USDWs through the casing wellbore annulus or vertical channels adjacent to the injection wellbore (external mechanical integrity).

b. Injectate Hazardous Waste Determination

i. Within sixty (60) days of the effective date of this Permit, the Permittee shall certify as unchanged, the

existing Injectate "Hazardous Waste Determination" of each unique waste stream source injected into each well authorized by this Permit, as listed in Section II.D.5.a, in accordance with 40 CFR § 262.11. If a change is identified, a new determination must be performed within sixty (60) days of the effective date of this Permit.

ii. Whenever there is a process change or a change in fluid chemical constituents or characteristics of the injectate at the power generating plant, the Permittee shall perform an additional "Hazardous Waste Determination" for each unique waste stream source listed in Section II.D.5.a. The Permittee should also refer to injectate testing requirements set forth in Section II.E.1., below. A letter with the results of the analyses shall be submitted to EPA within sixty (60) days of the "Hazardous Waste Determination" completion.

2. Mechanical Integrity

a. Mechanical Integrity Tests

Mechanical integrity testing shall conform to the following requirements throughout the life of each well authorized by this Permit and in accordance with the requirements set forth at 40 CFR §§ 144.51(q) and 146.8:

i. Casing/Tubing Annular Pressure (Internal MIT)

In accordance with the timing requirements defined in Section II.D.2.b., below, the Permittee shall perform a pressure test on the annular space between the tubing and long string casing to demonstrate the absence of significant leaks in the casing, tubing and/or liner. This test shall be for a minimum of thirty

(30) minutes at a pressure equal to or greater than the maximum allowable surface injection pressure (MAIP). A well passes the MIT if there is less than a five (5) percent change in pressure over the thirty (30) minute period. A pressure differential of at least three hundred and fifty (350) pounds per square inch (psig) between the tubing and annular pressures shall be maintained throughout the MIT. This test shall be performed on each well authorized by this Permit initially as described in Section II. D.1.a.

Detailed plans for conducting the Internal MIT must be submitted to EPA for review and approval. Once approved, the Permittee may schedule the Internal MIT, providing EPA at least thirty (30) days' notice before the Internal MIT is conducted. The final test report shall be submitted to EPA within sixty (60) days of test completion.

ii. Continuous Pressure Monitoring

The Permittee shall continuously monitor and record the tubing/casing annulus pressure and injection pressure by a digital instrument with a resolution of one tenth (0.1) psig. The average, maximum, and minimum monthly results shall be included in the next Quarterly Report submitted to EPA pursuant to Section II.E.6.b., along with any additional records or data requested by EPA regarding the continuous monitoring data described in this Section.

iii. Injection Profile Survey (External MIT)

In conjunction with and consistent with the deadlines for the first FOT conducted under this Permit, as required in Section II.B.4.b., the Permittee shall conduct a demonstration that the injectate is confined to the proper zone and submit the results of the demonstration to EPA for approval.

This demonstration shall consist of a radioactive tracer survey and a temperature log (as specified in Appendix D) or other diagnostic tool or procedure as approved by EPA.

Detailed plans for conducting the External MIT must be submitted to EPA for review and approval. Once approved, the Permittee may schedule the External MIT, providing EPA at least thirty (30) days' notice before the External MIT is conducted. The final test report shall be submitted to EPA within sixty (60) days of test completion.

b. Schedule for MITs

EPA may require that an Internal and/or External MIT be conducted, upon written request, at any time during the permitted life of each well authorized by this Permit. The Permittee shall also arrange and conduct MITs in each well authorized by this Permit according to the following requirements and schedule:

i. Within thirty (30) days from completion of any work-over operation where well integrity is compromised, an Internal MIT shall be conducted, and the results submitted to EPA for approval to verify that the well has mechanical integrity. Prior to this field demonstration, the Permittee shall submit testing plans to EPA, as described in Section II.A.2.

ii. At least annually, an injection profile survey External MIT shall be conducted in accordance with 40 CFR § 146.8 and Section II.D.2.a.iii., above.

iii. At least once every five (5) years, an Internal MIT shall be conducted in accordance with 40 CFR § 146.8 and Section II.D.2.a.i., above.

c. If Well IW5 and/or IW6 are constructed, the Permittee must conduct internal and

extermal MITs in accordance with the procedures and schedules outlined in Part II.D.2, above.

d. Loss of Mechanical Integrity

Within twenty-four (24) hours from the time the Permittee becomes aware of any loss of mechanical integrity in any well authorized by this Permit, the Permittee shall notify EPA of the situation and specify which of the following circumstances apply:

i. The well fails to demonstrate mechanical integrity during a test; or

ii. A loss of mechanical integrity becomes evident during operation; or

iii. A significant change in the annulus or injection pressure occurs during normal operating conditions. See Section II.D.6.b.

In the event of a loss of mechanical integrity, the Permittee shall immediately suspend injection activities in the affected well and shall not resume operation until it has taken necessary actions to restore and confirm mechanical integrity of the affected well, and EPA has provided written approval to recommence injection into the affected well.

The Permittee may not recommence injection after a workover which has compromised well integrity (e.g., unseating the packer, etc.) until it has received written approval from EPA that the demonstration of mechanical integrity is satisfactory.

3. Injection Pressure Limitation

For each well authorized by this Permit:

a. MAIP measured at the wellhead shall not exceed the values listed below at each well for injection into the Panoche Formation.

IW1: 2,478 psi
IW2: 2,416 psi
IW3: 2,478 psi
IW4: 2,478 psi

b. In no case shall the Permittee inject at pressures that (i) initiate new fractures or propagate existing fractures in the injection zone or the confining zone, (ii) cause the movement of injection or formation fluids into or between USDWs, or (iii) allow injection fluids to migrate to oilfield production wells.

c. Step Rate Testing (SRT), in accordance with EPA guidance is required prior to final establishment of injection presssure limits for the potential additional wells IW5 and/or IW6. Initial injection pressure(s) will not be greater than those set for the existing wells (as above).

4. Injection Volume (Rate) Limitation

For each well authorized by this Permit:

a. The daily injection rate at each well shall not exceed the values listed below at any time. This rate will be subject to an annual review based on the annual ZEI determinations performed as described in Section II.C.2. If IW5 and/or IW6 are constructed, no increase in the total volume authorized to be injected under this Permit is authorized.

IW1: 144,039 gallons
IW2: 172,041 gallons
IW3: 155,147 gallons
IW4: 164,002 gallons

b. The Permittee may request an increase in the maximum rate allowed in Section II.D.4.a., above. Any such request shall be made in writing, along with a justification for the proposed increase, to EPA for its review and approval.

c. Should any increase in injection rate be requested, the Permittee shall demonstrate to the satisfaction of EPA that the proposed increase will not interfere with the operation of the facility, its ability to meet conditions described in this Permit, change its well classification, or cause migration of injectate or pressure buildup to occur beyond the AOR.

d. The injection rate shall not cause an exceedance of the injection pressure limitation established pursuant to Section II.D.3.a.

5. Injection Fluid Limitation

a. This Permit authorizes injection of the following fluids into the wells authorized by this Permit: cooling tower blowdown water, reverse osmosis system reject water, evaporative cooler blowdown water, combustion turbine intercooler condensate, enhanced wastewater system (EWS) water, and oil/water separator discharge water generated from the power generating plant.

b. The Permittee shall not inject any hazardous waste, as defined by 40 CFR § 261, at any time. See also Section II.D.1.b.

c. Injection fluids shall be limited to those authorized by this Permit, which includes those fluids produced by the Permittee as described in Section II.D.5.a., above.

d. Particulate Filters may be used upstream of any well authorized by this Permit, at the discretion of the Permittee, to prevent formation plugging or damage from particulate matter. The Permittee shall include

any filter specifications in the Quarterly Report due annually in January as required in Section II.E.6.c., including proposed particle size removal with any associated justification for the selected size. For any particulate filters used, the Permittee shall follow appropriate waste analysis and disposal practices consistent with local, state, and federal law, and provide documentation to EPA.

e. Any well stimulation or treatment procedure (e.g., acidizing) performed at the discretion of the Permittee shall be proposed and submitted to EPA for approval. After approval is granted, notification to EPA is required at least thirty (30) days prior to performing the approved procedure. This requirement may be modified if the Permittee submits, within sixty (60) days after the effective date of the permit, a standard operating procedure for well stimulation or treatment for EPA approval. If the standard operating procedure plan is approved by EPA in writing, the Permittee may notify EPA within fifteen (15) days of the proposed well stimulation or treatment procedure, provided the procedure does not deviate in any way from the EPA-approved plan.

6. Tubing/Casing Annulus Requirements For any well authorized by this Permit:

a. The Permittee shall use and maintain corrosion-inhibiting annular fluid during well operation. See Appendix H for a complete, generic description and characterization of the annular fluid.

b. The Permittee shall maintain a minimum pressure of one hundred (100) psig at shut-in conditions on the tubing/casing annulus.

c. Any annular pressure measured outside of the established normal pressure range, as previously

determined under existing EPA Permit No. CA10600001, regardless of whether it otherwise meets the requirements of this Permit, shall be reported orally to EPA within twenty-four (24) hours, followed by a written submission within five (5) days, as a potential loss of mechanical integrity. In the submission, the Permittee must describe the event and include details, such as associated injection pressures and temperatures. The Permittee shall provide any additional information regarding the reported annular pressure event requested by EPA within sixty (60) days of receipt of a written request from EPA, or such other time frame established in writing by EPA.

E. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

1. Injection Fluid Monitoring Program

The Permittee shall sample and analyze injection fluids to yield representative data on their physical, chemical, and other relevant characteristics. Test results shall be submitted by the Permittee to EPA on a quarterly basis (see Section II.E.6., below).

Samples and measurements shall be representative of the monitored activity. The Permittee shall utilize applicable analytical methods described in Table I of 40 CFR § 136.3 or in EPA Publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," and as described below, unless other methods have been approved by EPA or additional approved methods or updates to the methods listed below become available.

a. Summary of Acceptable Analytic Methods

i. Inorganic Constituents – USEPA Method 300.0, Part A for Major Anions (with the exception of

Fluoride, which may be analyzed by SM-4500-F), and USEPA Method 200.8 or USEPA Method 200.7 for Cations and Trace Metals.

ii. Solids – Standard Methods 2540C and 2540D for Total Dissolved Solids (TDS) and Total Suspended Solids (TSS).

iii. General and Physical Parameters – appropriate USEPA methods for Turbidity, pH, Conductivity, Hardness, Specific Gravity, Alkalinity, and Biological Oxygen Demand (BOD); and Density and Viscosity (see EPA Bulletin 712-C-96-032) under standard conditions.

iv. Volatile Organic Compounds (VOCs) – USEPA Method 8260B or the most recently-approved EPA method.

v. Semi-Volatile Organic Compounds (SVOCs) – USEPA Method 8270C or the most recently-approved EPA method.

b. Timing of Analysis of Injection Fluids

Injection fluid sampling and analyses as outlined in Section II.E.1.a. above shall be performed, at the required timing or frequency:

i) Within thirty (30) days after the effective date of this Permit. If no change in injection fluid has occurred from the prior permit, the Permittee shall certify there has been no change within the specified timeframe; and

ii) On a quarterly basis; and

iii) Whenever there is a change in injection fluids such as whenever the injection fluid is no longer representative of previous samples and measurements that have been submitted and approved.

2. USDW Monitoring

Monitoring Well Installation – pursuant to 40 CFR §§ 146.13 (b) and (d) :

a. The Permittee shall install one (1) monitoring well to perform chemical analysis and measure specific conductance and formation pressure in order to identify potential changes in the USDW in the vicinity of one (1) nearby abandoned well, as described below in Monitoring Requirements. The one (1) monitoring well shall be located within 100 feet to the south-southwest of the Silver Creek 18 Well.

b. Within 60 days of the effective date of this Permit, and prior to drilling the monitoring well, the Permittee shall submit to EPA, for review and approval, a detailed construction plan and procedures, including the proposed field coordinates (Section, Township, Range, with latitude/longitude) for the surface location of the proposed monitoring well. The plans and procedures must describe how the Permittee will:

i. Drill the wellbore to the base of the USDW, located at the stratigraphic contact between the Kreyenhagen Shale and the sandy interval in the overlying Tumey Formation;

ii. Equip the well with a transducer to monitor pressure and specific conductance within the USDW, and with water quality monitoring equipment to allow sampling of the USDW; and

iii. Perform baseline characterization of ground water chemistry, to meet the analytical requirements in Part II.E.2., below.

c. Drilling for the installation of the monitoring well must commence within 120 days of the approval of the construction plans and procedures as described in (b)

above. Proposed financial assurance for the plugging and abandonment of the monitoring well must also be provided to EPA within 60 days of the effective date of the Permit. Financial assurance is described in Part II.G. 1, below.

d. The Permittee must submit a final well construction report, including logging, and other results, with a schematic diagram and detailed description of construction, including geophysical logs, driller's log, materials used (i.e., tubing tally), and cement (and other) volumes to EPA within sixty (60) days after completion of the monitoring well.

e. The Permittee must also submit a notice of completion of construction to EPA (using EPA Form 7520-18; see Appendix C) within sixty (60) days after completion of the well.

Monitoring Requirements

The Permittee shall perform the following chemical analysis and measure specific conductance and formation pressure in the monitoring well to be installed as described in Part II.E.2.a, in order to identify potential changes within the lowest USDW. The lowest USDW is defined by the sandy interval in the Tumey Formation, overlying the stratigraphic contact with the Kreyenhagen Shale:

a. Record pressure and specific conductance measurements via transducers daily;

b. Sample and perform chemical analysis for the following parameters using the Analytical Methods in Section E.1.a: TDS, alkalinity, anions and cations, trace metals, hardness, pH, specific gravity, total sulfide, oil and grease, and total metals. This analysis

shall be performed monthly for the first year of monitoring, and quarterly thereafter; and

c. Report the results to EPA as described in Section II.E.6.

3. Monitoring Information

The Permittee shall maintain records of monitoring activity required under this Permit, including the following information and data:

a. Date, exact location, and time of sampling or measurements;

b. Name(s) of individual(s) who performed sampling or measuring;

c. Exact sampling method(s) used;

d. Date(s) laboratory analyses were performed;

e. Name(s) of individual(s) who performed laboratory analyses;

f. Types of analyses; and

g. Results of analyses.

4. Monitoring Devices

a. Continuous Monitoring Devices

During all periods of operation of any authorized well, the Permittee shall measure the following wellhead parameters: (i) injectate rate/volume, (ii) injectate temperature, (iii) annular pressure, and (iv) injection pressure. The Permittee shall also measure pressure and specific conductance as described in Section II.E.2 at the monitoring well to be installed pursuant to Section II.E.2.a. All measurements must be recorded at minimum to a resolution of one tenth (0.1) of the unit of measure as shown in the table below (i.e.,

injection rate and volume must be recorded to a resolution of one tenth (0.1) of a gallon; pressure must be recorded to a resolution of one tenth (0.1) of a psig; injection fluid temperature must be recorded to a resolution of one tenth (0.1) of a degree Fahrenheit; and specific conductance must be recorded to a resolution of one tenth (0.1) of a micromhos/cm). Exact dates and times of measurements, when taken, must be recorded and submitted. Each injection well shall have a dedicated flow meter, installed so it records all injection flow. To meet the requirements of this Section, the Permittee shall monitor the following parameters, at the prescribed frequency, and record the measurements at this required frequency, using the prescribed instruments (continuous monitoring requires a minimum frequency of at least one (1) data point every thirty (30) seconds):

Monitoring Parameter	Frequency	Instrument
Injection Rate (gallons per minute)	Continuous	Digital recorder
Daily Injection Volume (gallons)	Daily	Digital totalizer
Total Cumulative Volume (gallons)	Continuous	Digital totalizer
Well Head Injection Pressure (psig)	Continuous	Digital recorder
Annular Pressure (psig)	Continuous	Digital recorder
Injection Fluid Temperature (degrees Fahrenheit)	Continuous	Digital recorder
Pressure in USDW (psig)	Daily	Digital recorder
Specific conductance in the USDW (micromhos/cm)	Daily	Digital recorder

The Permittee must adhere to the required format below for reporting injection rate and well head injection pressure. An example of the required electronic data format:

DATE	TIME	INJ. PRESS (PSIG)	INJ. RATE (GPM)
mm/dd/yy	hh:mm:ss	XXXX.X	XXXX.X

Each data line shall include four (4) values separated by a consistent combination of spaces or tabs. The first value contains the date measurement in the format of mm/dd/yy or mm/dd/yyyy, where mm is the number of the month, dd is the number of the day and yy or yyyy is the number of the year. The second value is the time measurement, in the format of hh:mm:ss, where hh is the hour, mm are the minutes and ss are the seconds. Hours should be calculated on a twenty-four (24)-hour basis, i.e., 6 PM is entered as 18:00:00. Seconds are optional. The third value is the well head injection pressure in psig. The fourth column is injection rate in gallons per minute (gpm).

b. Calibration and Maintenance of Equipment

The Permittee shall calibrate and maintain on a regular basis all monitoring and recording equipment to ensure proper working order of all equipment.

5. Recordkeeping

a. The Permittee shall retain the following records and shall have them available at the facility at all times for inspection by EPA or other authorized personnel, in accordance with the following:

i. All monitoring information, including required observations, calibration and maintenance records, recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the permit application;

ii. Information on the physical nature and chemical composition of all injected fluids;

iii. Results of the injectate "Hazardous Waste Determination" according to 40 CFR § 262.11 (see Section II.D.1.b.). Results shall demonstrate that the injectate does not meet the definition of hazardous waste as defined in 40 CFR § 261;

iv. The geophysical logging and results of the chemical analyses of the USDW from the monitoring well pursuant to Section II.E.2.a;

v. Pressure and specific conductance readings recorded pursuant to Section II.E.2; and

vi. Records and results of MITs, FOTs, and any other tests and logs required by EPA, and any well work and workovers completed.

b. The Permittee shall maintain copies (or originals) of all records described in Sections II.E.5.a.i. through vi., above, during the operating life of any well authorized by this Permit and shall make such records available at all times for inspection at the facility. The Permittee shall only discard the records described in Sections II.E.5.a.i. through vi., if:

i. The records are delivered to the EPA Region 9 Groundwater Protection Section; or

ii. Written approval from EPA to discard the records is obtained.

6. Reporting

a. The Permittee shall submit to EPA Quarterly Reports containing, at minimum, the following information gathered during the Reporting Period identified in Section II.E.6.b.:

i. Injection fluid characteristics for parameters specified in Section II.E.1.a.;

ii. The results of pressure and specific conductance monitoring and chemical analyses required in Section II.E.6.d.ii;

iii. When appropriate, Injectate Hazardous Waste Determination according to Section II.D.1.b.;

iv. The results of any additional MITs, FOTs, logging or other tests, as required by EPA;

v. Any pressure tests, as required by Section II.D.2.a.i.;

vi. Shut-in static reservoir pressure cumulative behavior plot of the injection zone, as required by Section II.B.3.a.F.;

vii. Hourly and daily values, submitted in electronic format, for the continuously monitored parameters specified for the injection wells in Section II.E.4.a.; and

viii. Monthly cumulative total volumes, as well as monthly average, minimum, and maximum values for the continuously monitored rate, pressure, and temperature parameters specified for the injection wells in Section II.E.4.a., unless more detailed records are requested by EPA.

b. Quarterly Reports, with the applicable Appendix C forms, shall be submitted for the reporting periods by the respective due dates as listed below:

Reporting Period	Report Due
Jan, Feb, Mar	Apr 28
Apr, May, June	July 28
July, Aug, Sept	Oct 28
Oct, Nov, Dec	Jan 28

c. For the Quarterly Report covering the reporting period of January, February, and March, the Permittee shall also include in that Report the following information collected during the prior year covering January through December:

i. Annual reporting summary;

ii. Annual injection profile survey results as required in Section II.D.2.a.iii.;

iii. The report on the results of pressure and specific conductance monitoring and chemical analyses required in Section II.E.6.e; and

iv. A narrative description of all non-compliance with the Permit that occurred during the past year.

d. The Permittee shall also submit to EPA reports of the results of formation pressure and specific conductance monitoring and chemical analyses performed pursuant to Section II.E.2. The reports shall include pressure and specific conductance measurements and the results of chemical analyses, and means and standard deviations of these values in a tabular (i.e., spreadsheet) format, along with graphical representations of the data, and be submitted as follows:

i. For the first year following the commencement of monitoring activities required under this Permit, the Permittee shall submit this information to EPA monthly, on the 15th day of the month.

ii. Following one (1) year of monthly monitoring reporting, the Permittee shall submit this information to EPA with the quarterly reports required in Section II.E.6.a.

e. At the end of each year, the Permittee shall submit a report that summarizes the pressure, specific conductance, and water quality monitoring data collected

that includes: a cumulative tabulation of the measurements/analytical results (since the commencement of monitoring activities), a description of trends in the measurements over time, and an interpretation regarding whether the data demonstrate that there is no hydraulic communication between the injection zone and the USDW via abandoned wells in the AOR and that USDWs are not endangered.

f. In addition to meeting the submittal requirements of Section III.E.9., digital e-copies of all Quarterly Reports shall also be provided to the following:

California Geologic Energy Management Division
Inland District
Attention: Supervising Oil and Gas Engineer
William.Long@conservation.ca.gov

Central Valley Regional Water Quality Control Board
Attention: Permit Section
Dale.Harvey@waterboards.ca.gov

F. PLUGGING AND ABANDONMENT

1. Notice of Plugging and Abandonment

The Permittee shall notify EPA no less than sixty (60) days before abandonment of any well authorized by this Permit and shall not perform the plugging and abandonment activities until the Permittee receives written notice of approval by EPA.

2. Plugging and Abandonment Plans

The Permittee shall plug and abandon the well(s) as provided by the Plugging and Abandonment Plan submitted by the Permittee (see Appendix G) and approved by EPA, consistent with CalGEM's "Onshore Well Regulations" of the California Code of Regulations, found in Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 4, Article 3,

Sections 1722-1723 and 40 CFR § 146.10. Upon written notice to the Permittee, EPA may change the manner in which a well will be plugged, based upon but not limited to the following reasons: (a) if the well is modified during its permitted life, (b) if the proposed Plugging and Abandonment Plan for the well is not consistent with EPA requirements for construction or mechanical integrity, or (c) otherwise at EPA's discretion. Upon written notice, EPA may periodically require the Permittee to update the estimated plugging cost. To determine the appropriate level of financial assurance for the Plugging and Abandonment Plan, the Permittee has obtained a cost estimate from an independent third-party firm in the business of plugging wells. The estimate includes the costs of all the materials and activities necessary to pay an independent third-party contractor to completely plug and abandon the injection and monitoring wells, as established in the Plugging and Abandonment Plan.

3. Cessation of Injection Activities

After a cessation of injection operations for two (2) years for any wells authorized by this Permit, a well is considered inactive. In this case, the Permittee shall plug and abandon the inactive well in accordance with the approved Plugging and Abandonment Plans, contained in Appendix G, unless the Permittee:

a. Provides notice to EPA of an intent to re-activate the well(s);

b. Has demonstrated that the well(s) will be used in the future;

c. Has described actions or procedures, satisfactory to EPA and approved in writing by EPA, which will be taken to ensure that the well(s) will not endanger USDWs during the period of inactivity, including

annually demonstrating external mechanical integrity of the well(s); and

d. Conducts an initial, Internal MIT on the inactive well(s) and subsequent Internal MITs every two (2) years thereafter while the well(s) remains inactive, demonstrating no loss of mechanical integrity. Note that the Permittee must restore mechanical integrity of the inactive well(s) or plug and abandon the well(s) if it fails the MIT.

4. Plugging and Abandonment Report

Within sixty (60) days after plugging any well authorized by this Permit, or at the time of the next Quarterly Report (whichever is sooner), the Permittee shall submit a report on Form 7520-19 (see Appendix C), as well as the detailed procedural activity of engineer's log and daily rig log to EPA. The report shall be certified as accurate by the person who performed the plugging operation and shall consist of either:

a. A statement that the well was plugged in accordance with the approved Plugging and Abandonment Plan contained in Appendix G; or

b. Where actual plugging differed from the Plugging and Abandonment Plan contained in Appendix G, a statement specifying and justifying the different procedures followed.

G. FINANCIAL ASSURANCE REQUIREMENTS 1. Demonstration of Financial Assurance

The Permittee is required to demonstrate and maintain financial assurance and resources sufficient to close, plug, and abandon any authorized underground injection operations by this Permit, as provided in the Plugging and Abandonment Plan contained in Appendix G and consistent with 40 CFR § 144 Subpart D.

In addition, the Permittee shall meet the following specific financial assurance requirements:

a. Prior to the issuance of this Permit, the Permittee provided, and EPA approved in writing, a financial assurance instrument, consistent with Section II.A.1 of this Permit, to guarantee closure of the wells authorized by this Permit, as follows, in the amount of:

Well IW1: $302,627
Well IW2: $348,156
Well IW3: $273,787
Well IW4: $270,431

These values were determined by the Permittee and have factored in the cost for an independent third party to plug and abandon the wells, plus a 20% contingency.

Prior to the installation of the monitoring well described in Part II.E.2.a, financial assurance must also be provided, for EPA approval, consistent with the schedule set forth in Part II.C.1 (c).

If the Permittee requests to construct IW5 and/or IW6, the Permittee is required to provide for EPA approval adequate financial assurance to guarantee closure of the well(s) before construction may be authorized.

b. For each well authorized by this Permit, the Permittee shall review and update, if needed, the financial assurance mechanism annually; a description of that review and any updates shall be set forth in the Quarterly Report due on January 28 of each year. At its discretion, and upon written request, EPA may require the Permittee to change to an alternate method of financial assurance. Any such change must be approved in writing by EPA prior to the change.

c. EPA may periodically require the Permittee to update the estimated Plugging and Abandonment Plan (see Appendix G) and/or the cost associated with it, and the Permittee shall make such an adjustment within sixty (60) days of notice from EPA. Alternately, EPA may independently adjust the required financial assurance amount, as warranted.

2. Failure of Financial Assurance

The Permittee must notify EPA of the insolvency of a financial institution supporting the financial assurance as soon as possible, but no later than ten (10) days after the Permittee becomes aware of the insolvency. The Permittee shall submit to EPA a revised and/or new instrument of financial assurance, consistent with the terms of this Permit, within sixty (60) days after any of the following events occur:

a. The institution issuing the bond or other financial instrument files for bankruptcy;

b. The authority of the trustee institution to act as trustee, or the authority of the institution issuing the financial instrument, is suspended or revoked; or

c. The institution issuing the financial instrument lets it lapse or decides not to extend it.

Failure to submit acceptable financial assurance may result in the termination of this Permit pursuant to 40 CFR § 144.40(a)(1).

3. Insolvency of Owner or Operator

An owner or operator must notify EPA by certified mail of the commencement of voluntary or involuntary proceedings under U.S. Code Title 11 (Bankruptcy), naming the owner or operator as debtor, within ten (10) business days after such an event occurs. A guarantor of a corporate guarantee must make such a notification

if he/she is named as debtor, as required under the terms of the guarantee.

H. DURATION OF PERMIT

This Permit and the authorization to inject are issued for a period of ten (10) years unless terminated under the conditions set forth in Section III.B.1 or administratively extended under the conditions set forth in Section III.E.12.

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 injection activity not otherwise allowed by this Permit, as such activities may allow the movement of fluid containing any contaminant into USDWs (as defined by 40 CFR §§ 144.3 and 146.3).

No injection fluids are allowed to migrate to any nearby oilfield production wells. Further, this Permit requires systematic and predictive documentation over the facility's operational life to ensure that no injection fluids, either presently or in the future, will migrate to oilfield operation or geothermal production wells.

Any underground injection activity not specifically authorized in this Permit is prohibited (40 CFR § 144.11). The Permittee must comply with all applicable provisions of the Safe Drinking Water Act (SDWA) and 40 CFR Parts 124, 144, 145, 146, 147 and 148. 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, including future, laws or regulations.

B. PERMIT ACTIONS

1. Modification, Revocation and Reissuance, or Termination

EPA may, for cause or upon request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR §§ 124.5, 144.12, 144.39, 144.40, and 144.51(f). The Permit is also subject to minor modifications for cause as specified in 40 CFR § 144.41. 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. EPA 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. Transfers

This Permit is not transferable to any person unless notice is first provided to EPA and the Permittee complies with requirements of 40 CFR § 144.38. *See also* 40 CFR § 144.51(l)(3). EPA 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 40 CFR §§ 2 and 144.5, any information submitted to EPA 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, EPA 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 40 CFR § 2 (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

The provisions of 40 CFR § 144.51 are incorporated by reference into this Permit, except as modified by specific provisions in this Permit. In addition, the following general duties and requirements apply to this Permit and the Permittee.

1. Duty to Comply

The Permittee shall comply with all applicable UIC Program regulations and all 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 40 CFR § 144.34. Any permit non-compliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or 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. 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 may also be subject to enforcement actions pursuant to RCRA or other actionable authorities. Any person who willfully violates a permit condition may be subject to criminal prosecution.

3. Need to Halt or Reduce Activity Not a Defense

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 in order to maintain compliance with the conditions of this Permit.

4. Duty to Mitigate

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

5. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

6. Property Rights

This Permit does not convey any property rights of any sort, or any exclusive privilege.

7. Duty to Provide Information

The Permittee shall furnish to EPA, within a time specified, any information which EPA 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 EPA, upon request, copies of records required to be kept by this Permit.

8. Inspection and Entry

The Permittee shall allow EPA, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, 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.

9. Submittal Requirements

The Permittee shall follow the procedures set forth below for all submittals made to EPA under this Permit, including all notices and reports:

a. All submittals to EPA shall be signed and certified by a responsible corporate officer or duly authorized representative consistent with the requirements of 40 CFR §§ 122.22, 144.32, and 144.51(k).

b. Unless otherwise required by this Permit or rule, all submissions (including correspondence, reports, records and notifications) required under this Permit shall be in writing and mailed first class mail to the following address:

U.S. Environmental Protection Agency, Region 9
Water Division
UIC Program
Groundwater Protection Section (WTR-4-2)
75 Hawthorne St.
San Francisco, CA 94105-3901

and by e-mail to: albright.david@epa.gov.

c. The compliance date for submittal of a report is the day it is mailed.

10. Additional Reporting Requirements

a. Planned Changes

The Permittee shall give notice to EPA as soon as possible of any planned physical alterations or additions to the permitted facility.

b. Anticipated Non-compliance

The Permittee shall give advance notice to EPA of any planned changes in the permitted facility or activity which may result in non-compliance with permit requirements.

c. Compliance Schedules

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 EPA no later than thirty (30) days following each schedule date.

d. Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this Permit.

e. Twenty-four Hour Reporting

i. The Permittee shall report to EPA any non-compliance which may endanger health or the environment, including:

(a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW; or

(b) Any non-compliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs.

ii. Any information shall be provided orally within twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. A written submission of all non-compliance as described in Section III.E.10.e.i., above, shall also be provided to EPA 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 pursuant to other reporting requirements outlined in this Permit. The Permittee shall submit the information listed in Section III.E.10.d.

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 EPA, the Permittee shall submit such facts or information within two (2) weeks of the time such facts or information becomes known.

11. Requirements Prior to Commencing Injection, Plugging and Abandonment Report, Duty to

Establish and Maintain Mechanical Integrity

The Permittee shall comply with all applicable requirements set forth at 40 CFR §§ 144.51(m)-(q) and as outlined throughout this Permit.

12. Continuation of Expiring Permit

a. Duty to Re-apply

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee must submit a complete application to EPA for a new permit at least three hundred and sixty five (365) days before this Permit expires.

e. Permit Extensions

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. EPA, 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.

13. Records of Permit Application

The Permittee shall maintain records of all data required to complete the permit application and any supplemental information submitted with the permit application.

14. Availability of Reports

Except for information determined to be confidential under 40 C.F.R. Part 2, Subpart B, all permit applica-

tions, permits, reports, and well operation data prepared in accordance with the conditions of this Permit shall be available for public inspection at appropriate offices of the EPA.

APPENDIX E

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

[FILED: AUG 8 2024]

No. 23-1268

Agency No. Environmental Protection Agency

PANOCHE ENERGY CENTER, LLC,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY; *et al.*,

Respondents.

Before: BYBEE, FRIEDLAND, and MILLER, Circuit Judges.

ORDER

The Petition for Panel Rehearing is DENIED.

APPENDIX F

42 U.S.C. § 300h-5. Regulation of State programs

Not later than 18 months after June 19, 1986, the Administrator shall modify regulations issued under this chapter for Class I injection wells to identify monitoring methods, in addition to those in effect on November 1, 1985, including groundwater monitoring. In accordance with such regulations, the Administrator, or delegated State authority, shall determine the applicability of such monitoring methods, wherever appropriate, at locations and in such a manner as to provide the earliest possible detection of fluid migration into, or in the direction of, underground sources of drinking water from such wells, based on its assessment of the potential for fluid migration from the injection zone that may be harmful to human health or the environment. For purposes of this subsection, a class I injection well is defined in accordance with 40 CFR 146.05 as in effect on November 1, 1985.

APPENDIX G

42 U.S.C. § 300h. Regulations for State programs

(a) Publication of proposed regulations; promulgation; amendments; public hearings; administrative consultations

(1) The Administrator shall publish proposed regulations for State underground injection control programs within 180 days after December 16, 1974. Within 180 days after publication of such proposed regulations, he shall promulgate such regulations with such modifications as he deems appropriate. Any regulation under this subsection may be amended from time to time.

(2) Any regulation under this section shall be proposed and promulgated in accordance with section 553 of Title 5 (relating to rulemaking), except that the Administrator shall provide opportunity for public hearing prior to promulgation of such regulations. In proposing and promulgating regulations under this section, the Administrator shall consult with the Secretary, the National Drinking Water Advisory Council, and other appropriate Federal entities and with interested State entities.

(b) Minimum requirements; restrictions

(1) Regulations under subsection (a) for State underground injection programs shall contain minimum requirements for effective programs to prevent underground injection which endangers drinking water sources within the meaning of subsection (d)(2). Such regulations shall require that a State program, in order to be approved under section 300h-1 of this title--

(A) shall prohibit, effective on the date on which the applicable underground injection control program takes effect, any underground injection in such State which is not authorized by a permit issued by the State (except that the regulations may permit a State to authorize underground injection by rule);

(B) shall require (i) in the case of a program which provides for authorization of underground injection by permit, that the applicant for the permit to inject must satisfy the State that the underground injection will not endanger drinking water sources, and (ii) in the case of a program which provides for such an authorization by rule, that no rule may be promulgated which authorizes any underground injection which endangers drinking water sources;

(C) shall include inspection, monitoring, record-keeping, and reporting requirements; and

(D) shall apply (i) as prescribed by section 300j-6(b) of this title, to underground injections by Federal agencies, and (ii) to underground injections by any other person whether or not occurring on property owned or leased by the United States.

(2) Regulations of the Administrator under this section for State underground injection control programs may not prescribe requirements which interfere with or impede--

(A) the underground injection of brine or other fluids which are brought to the surface in connection with oil or natural gas production or natural gas storage operations, or

(B) any underground injection for the secondary or tertiary recovery of oil or natural gas,

unless such requirements are essential to assure that underground sources of drinking water will not be endangered by such injection.

(3)(A) The regulations of the Administrator under this section shall permit or provide for consideration of varying geologic, hydrological, or historical conditions in different States and in different areas within a State.

(B)(i) In prescribing regulations under this section the Administrator shall, to the extent feasible, avoid promulgation of requirements which would unnecessarily disrupt State underground injection control programs which are in effect and being enforced in a substantial number of States.

(ii) For the purpose of this subparagraph, a regulation prescribed by the Administrator under this section shall be deemed to disrupt a State underground injection control program only if it would be infeasible to comply with both such regulation and the State underground injection control program.

(iii) For the purpose of this subparagraph, a regulation prescribed by the Administrator under this section shall be deemed unnecessary only if, without such regulation, underground sources of drinking water will not be endangered by an underground injection.

(C) Nothing in this section shall be construed to alter or affect the duty to assure that underground sources of drinking water will not be endangered by any underground injection.

(c) Temporary permits; notice and hearing

(1) The Administrator may, upon application of the Governor of a State which authorizes underground injection by means of permits, authorize such State to issue (without regard to subsection (b)(1)(B)(i)) temporary permits for underground injection which may be effective until the expiration of four years after December 16, 1974, if--

(A) the Administrator finds that the State has demonstrated that it is unable and could not reasonably have been able to process all permit applications within the time available;

(B) the Administrator determines the adverse effect on the environment of such temporary permits is not unwarranted;

(C) such temporary permits will be issued only with respect to injection wells in operation on the date on which such State's permit program approved under this part first takes effect and for which there was inadequate time to process its permit application; and

(D) the Administrator determines the temporary permits require the use of adequate safeguards established by rules adopted by him.

(2) The Administrator may, upon application of the Governor of a State which authorizes underground injection by means of permits, authorize such State to issue (without regard to subsection (b)(1)(B)(i)), but after reasonable notice and hearing, one or more temporary permits each of which is applicable to a particular injection well and to the underground injection of a particular fluid and which may be effective until the expiration of four years after

December 16, 1974, if the State finds, on the record of such hearing--

(A) that technology (or other means) to permit safe injection of the fluid in accordance with the applicable underground injection control program is not generally available (taking costs into consideration);

(B) that injection of the fluid would be less harmful to health than the use of other available means of disposing of waste or producing the desired product; and

(C) that available technology or other means have been employed (and will be employed) to reduce the volume and toxicity of the fluid and to minimize the potentially adverse effect of the injection on the public health.

(d) "Underground injection" defined; underground injection endangerment of drinking water sources

For purposes of this part:

(1) Underground injection

The term "underground injection"--

(A) means the subsurface emplacement of fluids by well injection; and

(B) excludes--

(i) the underground injection of natural gas for purposes of storage; and

(ii) the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.

(2) Underground injection endangers drinking water sources if such injection may result in the presence in underground water which supplies or can reasonably be expected to supply any public water system of any contaminant, and if the presence of such contaminant may result in such system's not complying with any national primary drinking water regulation or may otherwise adversely affect the health of persons.

APPENDIX H

5 U.S.C. § 706. Scope of review

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall--

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be--

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;

(D) without observance of procedure required by law;

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

APPENDIX I

40 C.F.R. § 146.13. Operating, monitoring and reporting requirements.

(a) Operating requirements. Operating requirements shall at a minimum, specify that:

(1) Except during stimulation injection pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case shall injection pressure initiate fractures in the confining zone or cause the movement of injection or formation fluids into an underground source of drinking water.

(2) Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited.

(3) Unless an alternative to a packer has been approved under § 146.12(c), the annulus between the tubing and the long string of casings shall be filled with a fluid approved by the Director and a pressure, also approved by the Director, shall be maintained on the annulus.

(b) Monitoring requirements. Monitoring requirements shall, at a minimum, include:

(1) The analysis of the injected fluids with sufficient frequency to yield representative data of their characteristics;

(2) Installation and use of continuous recording devices to monitor injection pressure, flow rate and volume, and the pressure on the annulus between the tubing and the long string of casing;

(3) A demonstration of mechanical integrity pursuant to § 146.8 at least once every five years during the life of the well; and

(4) The type, number and location of wells within the area of review to be used to monitor any migration of fluids into and pressure in the underground sources of drinking water, the parameters to be measured and the frequency of monitoring.

(c) Reporting requirements. Reporting requirements shall, at a minimum, include:

(1) Quarterly reports to the Director on:

(i) The physical, chemical and other relevant characteristics of injection fluids;

(ii) Monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure; and

(iii) The results of monitoring prescribed under paragraph (b)(4) of this section.

(2) Reporting the results, with the first quarterly report after the completion, of:

(i) Periodic tests of mechanical integrity;

(ii) Any other test of the injection well conducted by the permittee if required by the Director; and

(iii) Any well work over.

(d) Ambient monitoring.

(1) Based on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement, the Director shall require the owner or operator to develop a monitoring program. At a minimum, the

Director shall require monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.

(2) When prescribing a monitoring system the Director may also require:

(i) Continuous monitoring for pressure changes in the first aquifer overlying the confining zone. When such a well is installed, the owner or operator shall, on a quarterly basis, sample the aquifer and analyze for constituents specified by the Director;

(ii) The use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by the Director, or to provide other site specific data;

(iii) Periodic monitoring of the ground water quality in the first aquifer overlying the injection zone;

(iv) Periodic monitoring of the ground water quality in the lowermost USDW; and

(v) Any additional monitoring necessary to determine whether fluids are moving into or between USDWs.

APPENDIX J

40 C.F.R. § 144.55. Corrective action.

(a) Coverage. Applicants for Class I, II, (other than existing), or III injection well permits shall identify the location of all known wells within the injection well's area of review which penetrate the injection zone, or in the case of Class II wells operating over the fracture pressure of the injection formation, all known wells within the area of review penetrating formations affected by the increase in pressure. For such wells which are improperly sealed, completed, or abandoned, the applicant shall also submit a plan consisting of such steps or modifications as are necessary to prevent movement of fluid into underground sources of drinking water ("corrective action"). Where the plan is adequate, the Director shall incorporate it into the permit as a condition. Where the Director's review of an application indicates that the permittee's plan is inadequate (based on the factors in § 146.07), the Director shall require the applicant to revise the plan, prescribe a plan for corrective action as a condition of the permit under paragraph (b) of this section, or deny the application. The Director may disregard the provisions of § 146.06 (Area of Review) and § 146.07 (Corrective Action) when reviewing an application to permit an existing Class II well.

(b) Requirements—

(1) Existing injection wells. Any permit issued for an existing injection well (other than Class II) requiring corrective action shall include a compliance schedule requiring any corrective action accepted or prescribed under paragraph (a) of this section to be completed as soon as possible.

(2) New injection wells. No owner or operator of a new injection well may begin injection until all required corrective action has been taken.

(3) Injection pressure limitation. The Director may require as a permit condition that injection pressure be so limited that pressure in the injection zone does not exceed hydrostatic pressure at the site of any improperly completed or abandoned well within the area of review. This pressure limitation shall satisfy the corrective action requirement. Alternatively, such injection pressure limitation can be part of a compliance schedule and last until all other required corrective action has been taken.

(4) Class III wells only. When setting corrective action requirements the Director shall consider the overall effect of the project on the hydraulic gradient in potentially affected USDWs, and the corresponding changes in potentiometric surface(s) and flow direction(s) rather than the discrete effect of each well. If a decision is made that corrective action is not necessary based on the determinations above, the monitoring program required in § 146.33(b) shall be designed to verify the validity of such determinations.