STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

IN THE MATTER OF APPLICATION OF THE OIL CONSERVATION DIVISION TO ADOPT 19.15.41 NMAC, 19.15.42 NMAC, AND 19.15.43 NMAC

CASE NO. 25875

DÍNE C.A.R.E., EARTHWORKS, SAN JUAN CITIZENS ALLIANCE, SIERRA CLUB RIO GRANDE CHAPTER, TÓ NIZHÓNÍ ÁNÍ, AND WESTERN ENVIRONMENTAL LAW CENTER'S NOTICE OF FILING CLOSING ARGUMENT AND PROPOSED STATEMENT OF REASONS

Diné C.A.R.E., Earthworks, San Juan Citizens Alliance, Sierra Club Rio Grande Chapter, Tó Nizhóní Áni, and Western Environmental Law Center ("WELC") (collectively, "Conservation Groups") hereby file their Closing Argument and Proposed Statement of Reasons along with their final proposed amendments, reflected in **Conservation Groups' Exhibits 26, 26-A, 26-B, and 26C**.

Respectfully submitted,

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PRELIMINARY STATEMENT

Diné C.A.R.E., Earthworks, San Juan Citizens Alliance, Sierra Club Rio Grande Chapter, Tó Nizhóní Ání, and Western Environmental Law Center (collectively, "Conservation Groups") submit this Closing Argument and Proposed Statement of Reasons. The Oil Conservation Commission ("OCC") heard six days of evidence, from July 27 through August 3, 2026. The Oil Conservation Division ("OCD") filed its final proposed rules on September 11, 2026 ("OCD Final Redline").

Conservation Groups maintain, as set forth in their Motion to Dismiss and reiterated in Section III below, that neither the OCC nor OCD has statutory authority to promulgate the proposed Class VI regulatory program. Conservation Groups preserve that objection and reserve all rights to seek review on jurisdictional grounds. If the OCC nevertheless proceeds to adopt rules, the rules it adopts must be protective of New Mexico's underground sources of drinking water, and the amendments Conservation Groups propose are necessary to make them so.

The OCD has adopted several of Conservation Groups' proposals: the corrected definition of Area of Review ("AoR") in Parts 41 and 42, the exclusion of information already in the public record from confidentiality claims, and the addition of confining-zone integrity to the Class II to Class VI transition factors. The OCD made no substantive change to Part 43 in response to Conservation Groups' proposals. The record supports the remaining amendments, each of which is addressed in the Proposed Statement of Reasons below.

CLOSING ARGUMENT

IV. APPLICABLE LEGAL STANDARD

OCC rules will be set aside only if (1) arbitrary, capricious or an abuse of discretion, (2) not supported by substantial evidence in the record, or (3) not in accordance with law. NMSA

1978, § 70-2-12.2(C).

V. SUBSTANTIAL EVIDENCE SUPPORTS CONSERVATION GROUPS' PROPOSALS

All amendments offered by Conservation Groups are supported by substantial evidence, as set forth in detail in Conservation Groups' Proposed Statement of Reasons.

VI. THE OCC LACKS LEGAL AUTHORITY TO PROMULGATE THE PROPOSED RULES

The OCC and OCD are restricted to the statutory authority granted to them by the Legislature, and neither the New Mexico Oil and Gas Act, NMSA 1978, §§ 70-2-1 – 70-2-39 ("Oil and Gas Act"), nor the Geologic Carbon Dioxide Storage Stewardship Act, NMSA 1978, §§ 74-14-1 – 74-14-7 ("Stewardship Act"), confer the necessary authority to promulgate the rules in the Application.

The Oil and Gas Act's fundamental purpose and grants of authority concern the conservation of oil and gas and protecting correlative rights; the Act does not expressly or impliedly provide authority to regulate Class VI wells. NMSA 1978, §§ 70-2-6; 70-2-11. The Stewardship Act allows the OCC to execute its discrete and limited mandate to establish a fee schedule for the geologic carbon dioxide long-term storage stewardship fund ("Stewardship Fund") but nothing more. NMSA 1978, § 74-14-5(A). Further, the Stewardship Act grants the OCD the limited authority to: 1) administer the Stewardship Fund, 2) issue certificates of closure and completion to Class VI facility operators after carbon dioxide injection ceases, and 3) regulate post-closure activities for Class VI projects. *See* NMSA 1978, §§ 74-14-1 – 74-14-7. Neither statute authorizes the expansive regulatory scheme found in Applicant's proposed rules and neither agency has authority to promulgate them.

A. The Oil and Gas Act gives neither the OCC nor the OCD authority over Class VI wells.

The OCC and OCD were created by the Oil and Gas Act. NMSA 1978, § 70-2-4. The Oil and Gas Act empowers the OCD to prevent the waste and to protect correlative rights and provides the OCD authority over "all matters relating to the conservation of oil and gas" and authority to do all things necessary to enforce "this act of other law of this state relating to the conservation of oil or gas." NMSA 1978, § 70-2-6. As the OCC and OCD have concurrent authority under the Oil and Gas Act, §§70-2-6(B); 70-2-11(B), the OCC's authority is functionally identical to that of OCD.

Regulation of the Class VI injection program falls outside the OCC and OCD's express or implied authority provided by the Oil and Gas Act. Section 70-2-6 of the Oil and Gas Act does not confer authority to regulate Class VI wells because it provides the OCD authority over "persons, matters or things necessary or proper to enforce effectively the provisions of **this act** or any other law of this state **relating to the conservation of oil or gas**." NMSA 1978, § 70-2-6 (emphasis added). The permanent underground storage of carbon dioxide is not related to the conservation of oil and gas.

Long-term carbon storage through Class VI wells is a distinct legal regime, as evidenced by the fact that it comprises a separate injection class under the federal UIC program. That the OCD already has primacy over the Class II UIC program has no bearing on its authority over Class VI wells. Class II wells "are used only to inject fluids associated with oil and natural gas production," and carbon dioxide injected for enhanced oil recovery bears a clear nexus to oil and gas conservation. Carbon dioxide injected in a Class VI well is not used by the oil and gas industry at all; the purpose is to store it permanently underground. 40 C.F.R. § 144.3.

Section 70-2-11 likewise fails to supply authority. That section empowers the agencies "to prevent waste prohibited by this act and to protect correlative rights, as in this act provided," and "to do whatever may be reasonably necessary to carry out the purpose of this act." NMSA 1978, § 70-2-11 (emphasis added). The purpose of the Oil and Gas Act is to prevent the waste of

oil and gas, with the related goal of protecting correlative rights. *Cont'l Oil Co. v. Oil Conservation Comm'n*, 1962-NMSC-062, ¶ 11, 70 N.M. 310. The long-term storage of carbon dioxide implicates neither.

Section 70-2-12(B)(15) is concerned solely with produced water. It authorizes rules governing "the disposition, handling, transport, storage, recycling, treatment and disposal of produced water during, or for reuse in, the exploration, drilling, production, treatment or refinement of oil or gas, including disposal by injection pursuant to authority delegated under the federal Safe Drinking Water Act." Nothing in the subsection reaches any substance other than produced water, and the reference to the Safe Drinking Water Act does not enlarge its scope; those words appear in relation to the injection of liquid oil and gas waste.

Read as a whole, the four corners of the Oil and Gas Act concern the conservation of oil and gas and the protection of correlative rights. That scope is stated repeatedly in the act itself and has been reinforced by the courts for decades. *E.g., Cont'l Oil Co*., 1962-NMSC-062, ¶ 26. Neither agency may use a rulemaking to extend its regulatory reach to activities distinct from the statute's purposes. *N.M. Mining Ass'n v. N.M. Mining Comm'n*, 1996-NMCA-098, ¶ 15, 122 N.M. 332 (an agency may not "amend or enlarge their authority through the device of promulgating rules and regulations").

B. The Stewardship Act gives the OCC authority to establish a fee schedule for the Stewardship Fund and nothing more.

The Stewardship Act confers narrow authority on the OCC. The Act mentions the OCC once, and does so in the context of an explicit and limited command: "[t]he oil conservation commission shall establish by rule a fee schedule sufficient to meet the projected needs of the [geologic carbon dioxide long-term storage stewardship] fund." NMSA 1978, § 74-14-5(A). That language is unambiguous and cannot authorize the broad rulemaking the OCD seeks.

Nor does the OCC have implied authority. The OCC is given no responsibility or role in the act apart from establishing a fee schedule, and no language in the act suggests that further regulatory action by the OCC was authorized or intended. Unlike the Oil and Gas Act, the Stewardship Act contains no language granting the OCC concurrent jurisdiction with the OCD. Compare NMSA 1978, §§ 70-2-6, 70-2-11. Had the Legislature intended shared authority, it would have said so as it did in the Oil and Gas Act.

The record confirms the practical reality of these limits. The OCD's witnesses testified that the fee schedule and the Stewardship Fund remain unestablished, 7/31/26 Tr. 1056:5–18, that the OCD has not determined which agency will maintain records or oversee injection sites after stewardship transfer, 7/28/26 Tr. 451:15–452:9, and that if damage occurs after a non-endangerment demonstration is accepted, the cost "would fall on the State," 7/29/26 Tr. 739:19–740:2. The one task the Legislature actually assigned the OCC is the task this rulemaking does not perform.

C. Conservation Groups preserve their jurisdictional objection

Any rule adopted under the Oil and Gas Act "shall [be] set aside" if it is "arbitrary, capricious or an abuse of discretion" or "otherwise not in accordance with law." NMSA 1978, § 70-2-12.2(C). An agency "has no power to create a rule or regulation that is not in harmony with its statutory authority," *Rivas v. Bd. of Cosmetologists*, 1984-NMSC-076, ¶ 3, 101 N.M. 592, and rules that are not in accord with the basic requirements of the governing statutes are void, *Foster v. Bd. of Dentistry*, 1986-NMSC-009, ¶ 8, 103 N.M. 776.

Conservation Groups accordingly renew and preserve the arguments made in their Motion to Dismiss and reserve all rights to seek review of any rule adopted in this proceeding on the ground that the OCC and the OCD lack authority to promulgate it. Conservation Groups'

participation in this proceeding, and the proposed amendments set forth below, are offered without waiver of that objection. If the OCC proceeds despite the absence of authority, the rules it adopts should at minimum incorporate the protections described in the Proposed Statement of Reasons.

PROPOSED STATEMENT OF REASONS

III. CONSERVATION GROUPS' EXPERTS

A. Dr. Charles Harvey

1. Dr. Harvey is a professor in the Department of Civil and Environmental Engineering at the Massachusetts Institute of Technology, where he has served on the faculty for 27 years. He holds a Ph.D. in geological and environmental sciences and an M.S. in applied earth science from Stanford University, previously worked for the U.S. Geological Survey, and has published peer-reviewed work on subsurface fluid flow, geologic carbon sequestration, and carbon dioxide ("CO_2") plume behavior. CG Ex. 5 at CG-090–093 [Harvey Dir. Test.]; CG Ex. 4 [Harvey Resume].

2. Dr. Harvey was engaged for approximately five years with C12 Energy, a carbon capture and storage company, during development of the federal Class VI rules, where he assisted with "the calculations and . . . design and planning that go into a Class VI permit." 8/3/26 Tr. 1283:11–1285:12.

3. Dr. Harvey's research focuses on groundwater and spans a range of scientific, engineering, and policy issues. He has experience with both field experiments and numerical-model development. His research on subsurface fluid flow and groundwater contamination was highlighted as a key contribution leading to his recent election to the National Academy of Engineering. CG Ex. 5 at CG-091.

4. Dr. Harvey has published over 60 peer-reviewed scientific articles across topics in hydrogeology. He has published multiple articles on the coupled physics and chemistry of reactive transport in groundwater, which pertains to the geochemical effects of plumes of dissolved CO_2. CG Ex. 5 at CG-091-092.

B. Peter Morgan, J.D.

5. Peter Morgan is Legal and Policy Director for the Center for Asset Retirement Accountability ("CARA"). CARA addresses the national problem of unplugged oil and gas wells, including through regulatory solutions. He has a Bachelor of Arts from Middlebury College, a J.D. from Stanford Law School, and a Master of Science from Stanford's Emmet Interdisciplinary Program in Environment and Resources. CG' Ex. 3 at CG-056 [Morgan Dir. Test.].

6. Prior to CARA, Mr. Morgan worked for 16 years as an attorney for the Sierra Club, where he focused on the operation and cleanup of fossil fuel extraction facilities nationwide, with a concentration on oil and gas operations and coal mines. He has expertise analyzing state and federal regulatory requirements for financial assurance from industrial operators for plugging and abandonment and site remediation and the fiscal, environmental, and public health problems resulting from orphaned and abandoned wells across the nation. CG' Ex. 3 at CG-056-057.

7. He testified before the U.S. House of Representatives Natural Resources Committee Subcommittee on Energy and Mineral Resources on the need to improve regulations to strengthen financial assurance and other issues related to cleaning up fossil fuel extraction sites, and has submitted multiple sets of comments to federal authorities including the U.S. Bureau of Land Management regarding best regulatory practices to ensure prompt cleanup of

fossil fuel extraction infrastructure and avoid creating orphaned infrastructure. In 2025, he testified before the OCC on the need for improved financial assurance requirements for oil and gas operators in New Mexico. CG' Ex. 3 at CG-057; *see also* CG' Ex. 2 [Morgan Resume].

IV. CONSERVATION GROUPS' PROPOSALS

A. Conservation Groups' Proposed Amendments to 19.15.41 NMAC – Procedures for Decision Making

1. Conservation Groups' proposed amendments to 19.15.41.7.A(4) NMAC – Definition of AoR

8. At 19.15.41.7.A(4) NMAC, Conservation Groups propose:

19.15.41.7.A(4) **"Area of review"** means the area surrounding an injection well described according to the criteria set forth in Subsection E of 19.15.43.9 NMAC ~~§ 40 CFR 146.06 or in the case of an area permit, the project area plus a circumscribing area the width of which is either one-quarter of a mile or a number calculated according to the criteria set forth in § 40 CFR 146.06~~.

9. Conservation Groups propose to delete the "area permit" language because area permits are prohibited for Class VI wells. OCD agreed. OCD Ex. 22 at 11–12 [Schnaar Reb. Test.]; 7/27/26 Tr. 94:16–95:10; 7/28/26 Tr. 490:5–8; 7/29/26 Tr. 571:22–572:14. OCD's Final Redline replaces the definition with the definition used in 19.15.43.9 NMAC, which eliminates the area-permit language. OCD Proposed Changes to Amended Exhibit 2A at 1 [OCD Final Redline].

10. OCD's Final Redline references Area of Review criteria set forth in Subsection I of 19.15.43.9 NMAC. OCD Final Redline Exhibit 2A at 1. However, Area of Review criteria are instead set forth in Subsection E of 19.15.43.9 NMAC.

2. Conservation Groups' proposed amendments to 19.15.41.8.E(8) NMAC – Third-party verification in the public notice package

11. At 19.15.41.8.E(8) NMAC, Conservation Groups propose:

19.15.41.8.E(8) In addition to the general public notice described in Paragraph (5) of this subsection, all persons identified in Subparagraph (a) of Paragraph (5) of this subsection shall be mailed a copy of the fact sheet, the permit application (if any), inclusive of the third-party verification of the modeling ensemble, and the draft permit (if any).

12. Conservation Groups propose that the notice package mailed to the persons entitled to notice include the third-party verification of the modeling ensemble as required in Conservation Groups' proposal at 19.15.43.9.E(3)(e).

13. The purpose of this requirement is that the AoR is derived from reservoir simulation models, and the persons most affected by a permit cannot evaluate those models unless the verification of it is placed before them with the fact sheet, the application, and the draft permit. CG' Ex. 5 at CG-114, CG-131–133.

14. Permit applications made available for public comment often do not support meaningful technical review by interested members of the public. The information released during the public comment period can be "inscrutable"—even to those with technical expertise—due to redactions, and may not be adequate to provide technical review by interested members of the public. 8/3/26 Tr. 1253:13–16 (in one application released during the public comment period in another jurisdiction, the modeling inputs and artificial-penetration survey were redacted in their entirety). Even basic well information such as well location and the AoR, which should be available to adequately inform the public about local risks to health and safety, has been omitted from materials released during the public comment period in other jurisdictions. 8/3/26 Tr. 1358:21–1361:19.

B. Conservation Groups' Proposed Amendments to 19.15.42 NMAC – Underground Injection Control Program

1. Conservation Groups' proposed amendments to 19.15.42.7.A(3) NMAC – Definition of AoR

15. At 19.15.42.7.A(3) NMAC, Conservation Groups propose:

19.15.42.7.A(3) "Area of review" means the area surrounding an injection well described according to the criteria set forth in Subsection E of 19.15.43.9 NMAC ~~§ 40 CFR 146.06 or in the case of an area permit, the project area plus a circumscribing area the width of which is either ¼ of a mile or a number calculated according to the criteria set forth in Section 40 CFR 146.06~~.

16. Conservation Groups propose to delete the "area permit" language because area permits are prohibited for Class VI wells. OCD agreed. OCD Ex. 22 at 11–12; 7/27/26 Tr. 94:16–95:10; 7/28/26 Tr. 490:5–8; 7/29/26 Tr. 571:22–572:14. OCD's Final Redline replaces the definition with the definition used in 19.15.43.9 NMAC, which eliminates the area-permit language. OCD Final Redline Exhibit 2B at 1.

17. OCD's Final Redline references AoR criteria set forth in Subsection I of 19.15.43.9 NMAC. OCD Final Redline Ex. 2B at 1. However, AoR criteria are instead set forth in Subsection E of 19.15.43.9 NMAC.

2. Conservation Groups' proposed amendments to 19.15.42.8.B(2)(c) NMAC – Information already available for public inspection

18. At 19.15.42.8.B(2)(c) NMAC, Conservation Groups propose:

19.15.42.8.B(2) Claims of confidentiality for the following information will be denied:

(a) The name and address of any permit applicant or permittee.

(b) Information which deals with the existence, absence, or level of contaminants in drinking water or zones other than the approved injection zone.

(c) Information that is already available for public inspection.

19. Conservation Groups propose that the rule prohibit OCD from granting claims of confidentiality for information that is already publicly available.

20. The purpose for this requirement is that operators necessarily rely on publicly available information, such as earthquake data, well locations and completion reports, and geologic sections to build a permit safety case; confidentiality claims over that information undermine the public's ability to evaluate a permit that may irreversibly affect their water. CG Ex. 5 at CG-123. Permit applications in other jurisdictions have had such basic information, including well location and the AoR itself, redacted. 8/3/26 Tr. 1358:21–1359:16; 7/31/26 Tr. 992:16–19. In one Oxy application released for public comment in another jurisdiction, for

example, there was extensive redaction of modeling inputs and the artificial-penetration survey. 8/3/26 Tr. 1255:5–1259:4.

21. OCD's witnesses supported the principle, testifying that meaningful public participation requires disclosure of modeling approach, software, geologic framework, assumptions, input parameters, boundary conditions, calibration data, sensitivity and uncertainty analyses, and AoR results. OCD Ex. 23 at 7–8; 7/27/26 Tr. 186:11–23. OCD witnesses further recommend that "in interest of public transparency, the modeling information should be as public as can be under the applicable laws." 7/29/26 Tr. 555:14–19.

22. The OCD Final Redline adopts the substance of Conservation Groups' proposal: "(c) Information that is already available for public inspection." OCD Final Redline, Ex. 2 at 5. Conservation Groups adopt the OCD's proposed language.

3. Conservation Groups' proposed amendments to 19.15.42.9.F(1) NMAC – Class II to Class VI Transition standard

23. At 19.15.42.9.F(1) NMAC, Conservation Groups propose:

19.15.42.9.F(1) Owners or operators that are injecting carbon dioxide for the primary purpose of long-term storage into an oil and gas reservoir or for which there is an increased risk of USDWs compared to Class II operations must apply for and obtain a Class VI geologic sequestration permit ~~when there is an increased risk to USDWs compared to Class II operations~~. In determining if there is an increased risk to USDWs, the owner or operator must consider the factors specified within this section.

24. Conservation Groups propose that owners or operators injecting carbon dioxide be required to apply for a Class VI permit either when they are injecting for the primary purpose of long-term storage into an oil and gas reservoir **or** when there is an increased risk to USDWs compared to Class II operations.

25. The purpose of this proposal is to make either condition an independent trigger for Class VI permitting. As proposed by the OCD, the transition obligation requires that both conditions be present. OCD Final Redline Exhibit 2B at 8.

26. OCD's witnesses acknowledged the provision is open-ended. OCD witnesses explained that the provision exists "to preclude operators from trying to skate by as a Class II" when the real intent is long-term storage, given the tax incentives to do so, and acknowledged that the provision as written is "open-ended," and that "puts a lot of pressure on the director." 7/28/26 Tr. 517:22–519:7. They agreed that Environmental Protection Agency ("EPA") provides no quantitative guidance on the transition factors and that more detailed criteria are "achievable." 7/29/26 Tr. 581:1–6; 7/29/26 Tr. 583:17–24. OCD witnesses further testified that essentially no existing Class II well could meet the Class VI documentation standard. 7/28/26 Tr. 515:14–517:15.

27. OCD witnesses asserted that the amendment would displace the risk-based evaluation established by EPA at 40 C.F.R. § 144.19 and could require Class VI permitting even where USDW risks remain adequately managed under the Class II program. OCD Ex. 22 at 13-14. But OCD's witnesses also conceded that the factors governing that evaluation are unquantified, that EPA provides no meaningful guidance on them, and that more detailed criteria are "achievable." 7/29/26 Tr. 581:1-6; 583:17-24. Conservation Groups' amendment resolves that problem by making injection for the primary purpose of long-term storage an independent trigger.

4. Conservation Groups' proposed amendments to 19.15.42.8.F(2)(f) NMAC – Integrity of the confining zone

28. At 19.15.42.8.F(2)(f) NMAC, Conservation Groups propose:

19.15.42.8.F(2) The director shall determine when there is an increased risk to USDWs compared to Class II operations and a Class VI permit is required. In order to make this determination the Director must consider the following:

- **(a)** increase in reservoir pressure within the injection zone(s);
- **(b)** increase in carbon dioxide injection rates;
- **(c)** decrease in reservoir production rates;
- **(d)** distance between the injection zone(s) and USDWs;
- **(e)** suitability of the Class II area of review delineation;
- **(f)** quality of abandoned well plugs within the area of review;

(g) the owner's or operator's plan for recovery of carbon dioxide at the cessation of injection;

(h) the source and properties of injected carbon dioxide; ~~and~~

(i) integrity of the confining zone; and

~~(i)~~**(j)** any additional site-specific factors as determined by the director.

29. Conservation Groups propose that the Director consider the integrity of the confining zone for long-term containment, in addition to other factors, when determining whether an injection project has an increased risk to USDWs.

30. The purpose of this proposal is to account for the risks associated with Class II-D injection wells. Class II-R wells, which are used for enhanced recovery, involve injection into a hydrocarbon reservoir whose caprock has at least demonstrated the capacity to retain a buoyant fluid phase, although this evidence of seal competence does not establish that the seal would be effective under long-term CO_2 storage conditions. Class II-D injection wells, in contrast, typically receive produced water and other oilfield brines that are denser than or neutrally buoyant relative to native formation fluids, and therefore do not receive upward pressure on the confining zone. Assessment of the caprock seal's integrity for long-term containment addresses the risk that repurposing the well for CO_2 injection could introduce a migration pathway for supercritical CO_2 or displace brine into overlying USDWs. CG' Ex. 5 at CG-124-125.

31. OCD adopted Conservation Groups' proposal in their final rule language proposal, adding consideration of "(i) integrity of the confining zone." OCD Final Redline Exhibit 2B at 8.

C. Conservation Groups' Proposed Amendments to 19.15.43 NMAC – Underground Injection Control Program: Criteria and Standards

1. Conservation Groups' proposed amendments to 19.15.43.9.B NMAC – Definitions

32. At 19.15.43.9.B NMAC, Conservation Groups propose:

19.15.43.9.B. Definitions. The following definitions apply to this subpart. To the extent that these definitions conflict with those in Section 19.15.41.7 NMAC or Section 19.15.43.7 NMAC, these definitions govern for Class

VI wells:

…

(9) "Intensive Corrective Action Area" means the area into which brine with supercritical carbon dioxide will potentially intrude, defined radially from the injection well location as the maximum plume boundary extent across all model simulations, with an additional buffer of half the distance of the maximum plume boundary extent.

(10) "Plume stabilization" means the state when the carbon dioxide stream that has been injected subsurface essentially no longer expands vertically or horizontally, as demonstrated by a minimum of five consecutive years of monitoring data.

(11) "Post-injection site care" means appropriate monitoring and other actions (including corrective action) needed following cessation of injection to ensure plume stabilization has occurred and that USDWs are not endangered, as required under Subsection N of 19.15.43.9 NMAC.

33. Conservation Groups propose two new definitions and a conforming change to the definition of post-injection site care ("PISC").

34. The purpose of the Intensive Corrective Action Area ("ICAA") definition is to identify the portion of the AoR into which pure-phase carbon dioxide may intrude, plus a buffer to account for modeling error. This definition is subsequently proposed for use at 19.15.43.9.E(3)(a)(vi) and 19.15.43.9.E(4) NMAC to identify the wells that must be plugged at all depths with carbon dioxide resistant materials. CG' Ex. 5 at CG-143-144, CG-153; 8/3/26 Tr. 1259:14 to 1260:3.

35. The purpose of the plume stabilization definition is to tie the reduction of oversight obligations to observed behavior rather than to a model forecast. After injection ceases, buoyancy continues to drive carbon dioxide upward and laterally, and the plume may encounter pathways that were not part of the initial risk assessment. CG' Ex. 5 at CG-118-119, CG-126.

36. The state of Wyoming requires a demonstration of plume stabilization during PISC, and defines plume stabilization as occurring "when the carbon dioxide stream that has been injected subsurface essentially no longer expands vertically or horizontally and poses no threat to underground sources of drinking water, human health, safety, or the environment, as demonstrated by a minimum of three (3) consecutive years of monitoring data." WildEarth Guardians' Comments on the New Mexico Class VI Proposed Rules at pg. 19 of 123, Aug. 3,

2026. Wyoming has received Class VI primacy. *Id.* at pg. 72 of 123.

37. OCD witnesses acknowledged that the plume could continue to move while pressure remains elevated after closure, that whether monitoring continues until migration ceases is left to project-specific determination and guidance, and that no Class VI project in the United States has completed PISC or received site closure approval. 7/28/26 Tr. 330:17 to 332:7. There is no empirical field data showing that any plume has stabilized. 8/3/26 Tr. 1361:21 to 1362:23.

38. OCD witnesses asserted that the two definitions risk "creating ambiguity regarding how these terms relate to existing Class VI requirements and whether they establish new regulatory thresholds, obligations, or decision criteria." OCD Ex. 22 at 15. However, these definitions are intended to establish new obligations; that is why they are proposed. 8/3/26 Tr. 1259:14 to 1260:17.

39. Oxy witnesses asserted that the fifty percent buffer is arbitrary. Oxy Reb. Ex. 3 at ¶ 18 [Wachtman Reb. Test.]. But OCD and Oxy witnesses agree that models carry uncertainty, and a buffer is how that agreed uncertainty is carried into the rule rather than left to the operator. 8/3/26 Tr. 1260:18 to 1261:1.

2. Conservation Groups' proposed amendments to 19.15.43.9.C(1)(c) NMAC – Required Class VI Permit Information

40. At 19.15.43.9.C(1)(c) NMAC, Conservation Groups propose:

19.15.43.9.C(1)(c) Information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, including:

…

(ii) the location, orientation, and properties of known or suspected faults and fractures ~~that may transect the confining zone(s)~~ in the area of review and a determination that they would not interfere with containment under anticipated changes in pressure associated with injection;

…

(v) information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment under anticipated changes in pressure associated with injection; and

41. Conservation Groups propose owners or operators be required to submit

information on the geologic structure and hydrogeological properties of the proposed storage site and overlying formations that includes both information about suspected faults and fractures' interference with containment under anticipated changes in pressure associated with injection, as well as information about seismicity's interference with containment under anticipated changes in pressure associated with injection.

42. The purpose for the requirement that owners or operators provide information about faults and fractures in the AoR that includes a determination that they would not interfere with containment specifically "under anticipated changes in pressure associated with injection" is to ensure that the operator characterizes the in-situ stress state, identifies and maps faults within the pressure footprint, and evaluates whether projected pressure changes are sufficient to bring those faults to failure under site-specific conditions. Characterization identifies where faults are, but dynamic stability analysis determines whether injection-induced pressure change will cause them to slip, and whether they will slip is the question that governs containment. CG' Ex. 5 at CG-127-129. 8/3/26 Tr. 1280:12-19. Permit applications typically do not perform dynamic fault stability analysis. 8/3/26 Tr. 1280:12-19.

43. OCD witnesses acknowledged that the determination is pressure dependent. OCD witnesses testified that pore pressure reduces effective stress so that faults "can slide easier. That is the principle of fault slip potential," 7/27/26 Tr. 179:1-5, that the analysis asks "what pressure you are activating to the surface of the fault . . . [a]nd if the pressure activation is sufficient to activate the fault," 7/28/26 Tr. 243:4-14, and that whether a fault is sealing or transmissive "depends on the geological formation, the stress regime, and your injection," such that an operator should model both scenarios, 7/28/26 Tr. 296:12 to 297:21.

44. OCD witnesses asserted that the amendment is unnecessary because the rule

already requires characterization of known or suspected faults as part of site characterization and AoR review modeling that will consider project-specific pressure. OCD Ex. 22 at 16. However, if that is so, the amendment imposes no new burden; it simply codifies the requirement.

45. The purpose of removing the limitation of this information to faults and fractures "that may transect the confining zone(s)" in the AoR is to account for the fact that if a fault—even one that does not transect the confining zone—is activated, it can cause geomechanical effects. Additionally, the activation of an unexpected fault can demonstrate a flaw in the owner or operator's modeling. 8/3/26 Tr. 1363:18 to 1364:6. OCD witnesses agreed that such a change "may be reasonable," 7/29/26 Tr. 702:1-7, and Oxy witnesses acknowledged that in practice "all faults are evaluated," 7/31/26 Tr. 1135:14-21.

46. The purpose for the requirement that owners or operators provide information on the seismic history that includes a determination that the seismicity would not interfere with containment under anticipated changes in pressure associated with injection is to ensure that the operator characterizes the in-situ stress state. CG' Ex. 5 at CG-127-129.

3. Conservation Groups' proposed amendments to 19.15.43.9.E(2)(b)(ii) NMAC – Pre-specified, well-specific exceedance thresholds warranting an early reevaluation of the AoR

47. At 19.15.43.9.E(2)(b)(ii) NMAC, Conservation Groups propose:

19.15.43.9.E(2)(b)(ii) The monitoring and operational conditions that would warrant a reevaluation of the area of review prior to the next scheduled reevaluation as determined by the minimum fixed frequency established in item (i) of Subparagraph (b) of Paragraph (2) of this Subsection, including pre-specified, well-specific exceedance thresholds in pressure monitoring data and geochemical monitoring data and the discovery of a previously unidentified artificial penetration;

48. Conservation Groups propose that the AoR and corrective action plan identify, before injection begins, the specific monitoring values that will trigger an early reevaluation. A threshold defined in advance converts a discretionary judgment into an objective test. Without one, the question of whether a known anomaly is consequential is only answered after the data

are in hand, when the economic consequences of acting are known. CG' Ex. 5 at CG-111-112, CG-130; 8/3/26 Tr. 1264:19 to 1265:2.

49. OCD's witnesses confirmed that the rule supplies no such standard. When asked what monitoring results would show that the original AoR is no longer valid, OCD's witnesses testified it "is not quantitative in the regulations," and instead identified the deviation between observed and modeled pressures and between observed and modeled plume location as the two key considerations. 7/28/26 Tr. 479:18-24. OCD witnesses agreed that reevaluation triggers are "an important component" of the framework. OCD Ex. 23 at 8-9 [Khaniani Reb. Test.].

4. Conservation Groups' proposed amendments to 19.15.43.9.E(2)(c) NMAC – Third-party verification of the modeling ensemble

50. At 19.15.43.9.E(2)(c) NMAC, Conservation Groups propose:

19.15.43.9.E(2)(c) Findings of independent, certified third-party verification of the modeling ensemble used to delineate the area of review.

51. Conservation Groups propose that the AoR and corrective action plan include the findings of an independent, certified third-party verification of the modeling ensemble used to delineate the AoR.

52. The purpose for this requirement is that the AoR model is a foundational component of the Class VI framework, and if the only people who have examined the model are the people the operator paid to build it, the state is accepting a safety determination it cannot independently evaluate. Independent review is the institutional mechanism for catching errors in a model. CG' Ex. 5 at CG-132.

53. OCD witnesses objected that a proper administrative record would contain sufficient information to allow an independent evaluation of the AoR model and its conclusions, and that the public comment period is an adequate opportunity for technically qualified third

parties to evaluate and comment on the modeling record. OCD Ex. 23 at 8. However, the information released during the public comment period is often "inscrutable" due to redactions, and may not be adequate to provide technical review by interested members of the public. 8/3/26 Tr. 1253:13–16 (in one application released during the public comment period in another jurisdiction, the modeling inputs and artificial-penetration survey were redacted in their entirety). Even basic well information such as well location and the AoR, which should be available to adequately inform the public about local risks to health and safety, has been omitted from materials released during the public comment period in other jurisdictions. 8/3/26 Tr. 1358:21–1361:19.

5. Conservation Groups' proposed amendments to 19.15.43.9.E(3) NMAC– Use of Qualified Person

54. At 19.15.43.9.E(3) NMAC, Conservation Groups propose:

19.15.43.9.E(3) Using a qualified person, owners ~~Owners~~ or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:

55. Conservation Groups propose that owners or operators use a qualified person to delineate the AoR and identify wells needing corrective action. The purpose for this requirement is that the modeling choices that determine the AoR are complex and consequential, and unqualified practitioners will make errors that put USDWs at risk. CG' Ex. 5 at CG-134. In applications submitted to EPA it is often unclear whether a trained professional built the geologic model and reservoir simulation framework. 8/3/26 Tr. 1262:4-19. The OCD's own Class VI program manager confirmed that this work requires "the specialized software, those type of things," which the OCD does not have. 7/28/26 Tr. 361:21-23.

56. OCD witnesses asserted that "qualified professional expert" is vague because the rule does not specify credentials or certifications. OCD Ex. 22 at 17-18. Changing this proposal

to "qualified person" "does not imply a particular certification or credential, but does imply relevant experience and knowledge," and "would be an improvement to the existing rule language." 8/3/26 Tr. 1262:15-19.

6. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a) NMAC– Use of peer-reviewed or commercially available modeling and definition of the AoR

57. At 19.15.43.9.E(3)(a) NMAC, Conservation Groups propose:

19.15.43.9.E(3)(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

58. Conservation Groups propose that prediction of the carbon dioxide plume movement be performed using peer-reviewed or commercially-available modeling.

59. The purpose for requiring that operators use peer-reviewed or commercially available computational code is that the major elements of a Class VI permit rest on the output of reservoir simulation models. Without peer review or a model developed to a commercially available standard, neither the state nor the public can determine whether the code correctly implements the physics it claims to represent, and without full disclosure of the code's assumptions, the state cannot evaluate whether the model is appropriate for the site. EPA's AoR guidance recommends peer-reviewed code and assumption disclosure. CG' Ex. 5 at CG-134-136.

60. OCD witnesses objected to the requirement that operators use peer-reviewed or commercially available computational code as overly prescriptive. OCD Ex. 22 at 16. However, Conservation Groups' proposal would not require the use of any particular software package; it simply requires code that has been independently scrutinized, because code that "has never been

peer-reviewed or commercially validated fails to give the regulator or the public a basis to trust whether it correctly implements the physics."

61. OCD witnesses support the disclosure of software used so that reviewers can evaluate the modeling using commercially available, proprietary, or open-source platforms. OCD Ex. 23 at 7. Conservation Groups' proposal is consistent with that testimony.

62. Conservation Groups also propose that owners or operators calculate the area over which induced pressure differentials could drive movement of formation or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of that area and the projected migration of the carbon dioxide plume until the plume movement ceases.

63. The purpose of this requirement is to ensure the AoR is defined in a way that includes legacy wells, faults, and USDWs within the much larger pressure-affected zone beyond the plume itself. EPA's AoR guidance recommends that the AoR encompass the maximum extent of the separate-phase plume or pressure front over the lifetime of the project. CG' Ex. 5 at CG-136-137.

64. Defining the AoR as the union of the plume area and the pressure-driven area would codify existing practice. OCD witnesses agreed that the AoR must be "the final outline of . . . both the plume and that pressure front." 7/28/26 Tr. 467:2-18. Oxy's witness similarly agreed that "there could be a zone larger than the plume where injection could endanger a USDW without CO_2 present." 7/31/26 Tr. 1104:15-21. And although the existing regulatory language may not preclude consideration of the pressure front, it also does not require it. 8/3/26 Tr. 1311:23 to 1312:5. Similarly, although the EPA guidance recommends consideration of the pressure front, because guidance is not binding, incorporating this requirement into the rule would ensure both zones are included in the delineated AoR. 8/3/26 Tr. 1324:24 to 1325:6.

65. OCD witnesses asserted that Conservation Groups' modeling requirements are overly prescriptive and better addressed through permit review and guidance. OCD Ex. 22 at 16-18. Guidance, however, is not binding on operators, 7/29/26 Tr. 574:6-10, and the guidance the OCD invokes has not yet been written, 7/28/26 Tr. 435:13 to 436:21.

7. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(i) NMAC– Use of ensemble approach to predict AoR

66. At 19.15.43.9.E(3)(a)(i) NMAC, Conservation Groups propose:

19.15.43.9.E(3)(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

(i) Use an ensemble approach that considers the full range of realistic variation in and interaction among key parameters, including permeability-field parameters, kv/kh ratio, porosity, and relative permeability curves and hysteresis;

67. Conservation Groups propose that modeling of the AoR use an ensemble approach considering various data to predict the movement of the carbon dioxide plume.

68. The purpose of this requirement is to ensure that owners or operators use more than a single deterministic model run, which produces only one prediction of where pressure and CO_2 will migrate with no indication of how inaccurate that prediction might be. The subsurface properties governing CO_2 migration are deeply uncertain, and a single run might underestimate the AoR, leaving legacy wells, faults, and drinking water aquifers within the actual area of influence unprotected. CG' Ex. 5 at CG-138-140.

69. OCD witnesses agreed that part of the standard method would be to quantify the probabilistic ranges of the plume, and that an operator must perform uncertainty analysis. 7/28/26 Tr. 279:7 to 281:8. OCD witnesses also agreed that model boundary conditions "really should be physically based" and tested, that the Director may require alternative conceptual

geologic models, and that modeling must use a representative range of carbon dioxide stream compositions. 7/28/26 Tr. 472:5-22; 502:9-20.

8. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(ii) NMAC– Use of at least three wells to characterize confining and injection zones

70. At 19.15.43.9.E(3)(a)(ii) NMAC, Conservation Groups propose:

19.15.43.9.E(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

~~(i)~~**(ii)** Be based on detailed geologic data collected from at least three wells to characterize the injection zone(s), confining zone(s) and any additional zones; and anticipated operating data, including injection pressures, rates, and total volumes over the proposed life of the geologic sequestration project;

71. Conservation Groups propose that modeling of the AoR use detailed geologic data collected from at least three wells. The purpose of this requirement is to provide a regulatory floor. 8/3/26 Tr. 1340:2-11. Although certain sites might warrant additional wells due to the heterogeneity or hydraulic parameters, such a requirement would ensure that a project could not employ **too few** wells. 8/3/26 Tr. 1341:18 to 1342:8. Where existing wells could serve this function, an owner or operator would not need to install new wells. 8/3/26 Tr. 1342:9 to 1343:3.

9. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(iii) NMAC– Calculation of AoR as union of all potential AoRs

72. At 19.15.43.9.E(3)(a)(iii) NMAC, Conservation Groups propose:

19.15.43.9.E(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a

USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

(iii) Calculate the project AoR as the union of all potential AoRs computed using pressure-driven methods, the areal CO2 plume extent, and a simple scalar factor for estimating distance of pressure front based on maximum plume extent;

73. Conservation Groups propose that the modeling of the AoR calculate the project AoR as the union of all potential AoRs. The purpose of this requirement is to address the uncertainty associated with a geologically complex subsurface, as a single estimation method may underestimate the AoR. CG' Ex. 5 at CG-141-142.

10. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(v) NMAC– Evaluation of reactive transport

74. At 19.15.43.9.E(3)(a)(v) NMAC, Conservation Groups propose:

19.15.43.9.E(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

(v) Evaluate reactive transport to account for the geochemical reactions and lithology of the target reservoir and caprocks;

75. Conservation Groups propose that the modeling of the AoR evaluate reactive transport. The purpose of this requirement is to ensure the modeling accounts for geochemical reactions that can change the rock's porosity, permeability, and strength over time. CG' Ex. 5 at CG-142-143.

76. OCD witnesses objected that reactive transport modeling is computationally intensive and unnecessary for all projects. OCD Ex. 22 at 17. However, EPA's own guidance recognizes that geochemical reactions "can change permeability, release undesirable elements, alter injectivity, and affect ultimate storage capacity," yet OCD's proposed rules make the modeling optional. CG' Ex. 5 at CG-142-143.

11. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(vi) NMAC– Identification of the Intensive Corrective Action Area

77. At 19.15.43.9.E(3)(a)(vi) NMAC, Conservation Groups propose:

19.15.43.9.E(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

(vi) Identify the Intensive Corrective Action Area;

78. Conservation Groups propose that the modeling of the AoR identify the Intensive Corrective Action Area. The purpose of this requirement is to ensure that owners and operators account for the qualitatively different zones of threat to drinking water—the zone of increased pressure and the zone that may encounter the CO_2 plume, the latter requiring more intensive corrective action due to the geochemical degradation associated with CO_2-bearing brine.

CG' Ex. 5 at CG-143-145.

12. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(vii) NMAC– Use of 3D seismic characterization

79. At 19.15.43.9.E(3)(a)(vii) NMAC, Conservation Groups propose:

19.15.43.9.E(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

~~(iii)~~**(vii)** Consider potential migration through faults, fractures, and artificial penetrations, using 3D seismic characterization; and

80. Conservation Groups propose that the modeling of the AoR use 3D seismic characterization to consider potential migration through leakage pathways. The purpose of this proposal is that three-dimensional seismic characterization is the only available technology with

the coverage and resolution to map faults systematically across the AoR, and a fault that is not found cannot be evaluated. CG' Ex. 5 at CG-145.

81. OCD's witnesses supported "full characterization" using all available resources, testified that 3D seismic improves the certainty of fault analysis and plume imaging, and asserted that an operator must "do all they can to see if 3D seismic data exists and use it as part of the application." 7/28/26 Tr. 240:21 to 241:8; 269:13-21; 292:19-22; 294:22-25. They described New Mexico's geology as "challenging," with faults usually present. 7/28/26 Tr. 295:15-25. They further testified that in areas of high faulting with sparse seismic data they would recommend high-density 2D or 3D seismic, and agreed that this describes "most of the areas of these basins." 7/28/26 Tr. 465:12 to 466:19. Oxy acquired 3D seismic for at least one of its own Class VI projects. 7/31/26 Tr. 1134:12-15.

82. OCD and Oxy witnesses objected that mandatory 3D seismic is unnecessarily restrictive and that operators may be unable to obtain proprietary data. OCD Ex. 22 at 17 ; Oxy Reb. Ex. 3 at ¶¶ 19-20; 7/28/26 Tr. 466:4-10. However, that objection is commercial rather than technical, and it is in tension with the OCD's acknowledgment that a fault identified in proprietary data need not appear on the AoR map at all. 7/29/26 Tr. 697:18-22.

13. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(viii) NMAC– Consideration of interaction with other operational or historic injection projects

83. At 19.15.43.9.E(3)(a)(viii) NMAC, Conservation Groups propose:

19.15.43.9.E(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

(viii) Consider pressure and chemical interactions with all other operational or historic injection projects within a ten-mile radius;

84. Conservation Groups propose that the modeling of the AoR consider pressure and chemical interactions with other injection projects—past or present—within a ten-mile radius. The purpose of this requirement is to address pressure interference. When multiple wells inject into the same formation, their pressure fields combine and the combined area of elevated pressure exceeds what any single model predicts. CG' Ex. 5 at CG-116, CG-146-150. The purpose evaluating other injection projects within ten miles, regardless of the size of the AoR, is that the migration of injectate from neighboring wells is unknown. The Director would retain discretion to require an applicant to look farther. 8/3/26 Tr. 1295:21 to 1296:20; 1367:16 to 1369:4.

85. OCD witnesses agreed that "all of those wells and all of the injection from their project would -- would have to be included if it's in the same area of review… there's no question," including salt water disposal, but acknowledged that they didn't "know how much this is spelled out in the rules." 7/28/26 Tr. 491:6-23. OCD witnesses also acknowledged that guidance on overlapping projects "ha[s]n't been developed yet." 7/29/26 Tr. 598:15-25.

86. Oxy objected that a ten-mile radius covers 314 square miles regardless of site geology. Oxy Reb. Ex. 3 at ¶ 12; 8/3/26 Tr. 1296:21 to 1297:6. The obligation is to evaluate interactions, however, not to monitor or perform corrective action across that area.

14. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(ix)-(xi) NMAC– Description of model and calibration information

87. At 19.15.43.9.E(3)(a)(ix)-(xi) NMAC, Conservation Groups propose:

19.15.43.9.E(3)(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the~~

~~Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

(ix) Describe the conceptual model, numerical or analytical method, software and version, governing assumptions, initial and boundary conditions, input parameters and sources of data used;

(x) Describe the calibration methodology and results, where calibration data are available;

(xi) Provide sufficient documentation to allow the director to evaluate and reproduce, or independently review, the material conclusions of the modeling analysis;

88. Conservation Groups propose that the conceptual model, numerical or analytical method, software and version, governing assumptions, initial and boundary conditions, input parameters, and sources of data used be described by the model that is used to delineate the AoR. Conservation Groups also propose that the calibration methodology and results be described, and that sufficient documentation be provided to allow the director to adequately evaluate the conclusions of the modeling analysis.

89. The purpose of these proposals is to promote scientific transparency and to ensure that the regulator can see the data and reasoning behind a model's predictions and thus evaluate the safety case. EPA recommends that operators disclose code assumptions and other similar information. CG' Ex. 5 at CG-095, CG-136.

90. OCD witnesses testified that these proposals could "provide additional clarity on what is required for model documentation," that they would not "add much additional burden because most operators should be doing these things," and that they were "good suggestions." 7/29/26 Tr. 608:17 to 609:8.

15. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(a)(xii)-(xiii) NMAC– Sensitivity and uncertainty analysis

91. At 19.15.43.9.E(3)(a)(xii)-(xiii) NMAC, Conservation Groups propose:

19.15.43.9.E(3)(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until

the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

…

(xii) Evaluate the sensitivity of predicted plume migration, pressure-front movement and area of review delineation to material uncertainty in site characterization data, formation properties, operational assumptions and model parameters; and

(xiii) Describe material sources of uncertainty and explain how those uncertainties were considered in delineating the area of review and developing the corrective-action and testing and monitoring plans.

92. Conservation Groups propose that the model evaluate the sensitivity of the plume migration, pressure-front movement and AoR delineation to material uncertainty in site characterization data, formation properties, operational assumptions and model parameters. Conservation Groups also propose that the model describe material sources of uncertainty and explain how those uncertainties were considered in delineating the AoR and in developing corrective-action and testing and monitoring plans.

93. The purpose of these proposals is to account for the uncertainty inherent in subsurface predictions. *See* CG' Ex. 5 at CG-094, CG-110, CG-132, CG-138.

94. OCD witnesses testified that these proposals could "provide additional clarity on what is required for model documentation," that they would not "add much additional burden because most operators should be doing these things," and that they were "good suggestions." 7/29/26 Tr. 608:17 to 609:8.

16. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(b) NMAC– Confirmation of model by placement of monitoring well

95. At 19.15.43.9.E(3)(b) NMAC, Conservation Groups propose:

19.15.43.9.E(3) Using a qualified person, owners ~~Owners~~ or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:

…

(b) Confirm the model's validity by placement of a monitoring well where plume is modeled to be after one year of commencement of injection.

96. Conservation Groups propose that one requirement for delineating the AoR is

using specific predictions at key monitoring wells to help ensure the CO_2 plume model is sufficiently accurate in its representation of plume evolution.

97. The purpose of this requirement is that it would provide direct observational evidence that the CO_2 plume is migrating as modeled. If the plume migrates in an unexpected direction or at an unexpected rate, it may encounter legacy wells, faults, or confining-zone weaknesses that the corrective action plan did not address, presenting a risk to USDWs. At every saline-aquifer CCS site with published data, pre-injection models were wrong about plume behavior, indicating that a scientifically rigorous approach of testing the performance of a model is warranted. CG' Ex. 5 at CG-150.

17. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(c) NMAC– Identification of penetrations in the AoR

98. At 19.15.43.9.E(3)(c) NMAC, Conservation Groups propose:

19.15.43.9.E(3) Using a qualified person, owners ~~Owners~~ or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:

…

~~**(b)**~~**(c)** Using all appropriate databases and other methods approved by the director, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone(s). When plugging records are incomplete, use field testing to identify all penetrations. Provide a ~~description~~ record of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the director may require.

99. Conservation Groups propose that owners or operators be required to use all appropriate databases, in addition to other methods approved by the director, to identify penetrations in the AoR that may penetrate the confining zone. Conservation Groups also propose that owners or operators be required to use field testing to identify artificial penetrations when plugging records are incomplete, and that they provide a record—rather than description—of the well.

100. The purpose of requiring that owners or operators be required to use all appropriate databases to identify all penetrations is that each penetration represents a potential

unmonitored, unevaluated conduit through which injection-driven pressure can push contaminated brine into a drinking water aquifer, and reliance on a single database can cause an owner or operator to miss wells, as many databases are incomplete. EPA guidance recommends using state databases, county records, and private databases when searching for abandoned wells. CG' Ex. 5 at CG-151-152.

101. OCD witnesses agreed that the general framework of the Class VI program and rules presume that a well within the AoR lacking reliable plugging records is a potential conduit unless shown otherwise. 7/28/26 Tr. 333:11-16. OCD witnesses also agreed that it was important to identify all inactive or abandoned wells that either entered the injection zone or a zone that was geologically connected to the CO_2 storage reservoir. 7/28/26 Tr. 381:1-5.

102. The purpose for requiring that operators field test all abandoned wells without complete plugging records is that it is impossible to know with certainty whether such wells are open to the injection zone. Critically, most wells in the United States have incomplete records. EPA guidance recommends field testing if plugging cannot be proven adequate through record review. CG' Ex. 5 at CG-152-153.

103. Regardless of the presence of records or the depth of artificial penetrations in New Mexico's geologic formations, *see* 8/3/26 Tr. 1320:8-15, OCD witnesses agreed that abandoned wells with incomplete or inadequate plugging records would require conservative evaluation, 7/28/26 Tr. 333:6-10. OCD witnesses further testified that it was necessary to ensure the mechanical integrity of all inactive and abandoned wells that had the possibility of penetrating the injection zone or a geologically connected formation. 7/28/26 Tr. 381:20 to 382:13.

18. Conservation Groups' proposed amendments to 19.15.43.9.E(3)(e) NMAC– Use of independent, certified third-party verification of modeling ensemble

104. At 19.15.43.9.E(3)(e) NMAC, Conservation Groups propose:

19.15.43.9.E(3) Using a qualified person, owners ~~Owners~~ or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:

…

(e) Use independent, certified third-party verification of modeling ensemble.

105. Conservation Groups propose that owners or operators use an independent, certified third-party verification of the modeling ensemble when delineating the AoR and identifying wells that require corrective action.

106. The purpose for this requirement is that the AoR model is a foundational component of the Class VI framework, and if the only people who have examined the model are the people the operator paid to build it, the state is accepting a safety determination it cannot independently evaluate. Independent review is the institutional mechanism for catching errors in a model. CG' Ex. 5 at CG-132.

107. OCD witnesses objected that a proper administrative record would contain sufficient information to allow an independent evaluation of the AoR model and its conclusions, and that the public comment period is an adequate opportunity for technically qualified third parties to evaluate and comment on the modeling record. OCD Ex. 23 at 8. However, the information released during the public comment period is often "inscrutable" due to redactions, and may not be adequate to provide technical review by interested members of the public. 8/3/26 Tr. 1253:13–16 (in one application released during the public comment period in another jurisdiction, the modeling inputs and artificial-penetration survey were redacted in their entirety). Even basic well information such as well location and the AoR, which should be available to adequately inform the public about local risks to health and safety, has been omitted from materials released during the public comment period in other jurisdictions. 8/3/26 Tr. 1358:21–

1361:19.

19. Conservation Groups' proposed amendments to 19.15.43.9.E(4) NMAC– Corrective action

108. At 19.15.43.9.E(4) NMAC, Conservation Groups propose:

19.15.43.9.E(4) Owners or operators of Class VI wells must perform corrective action on all wells in the area of re1view that are determined to need corrective action or breach any layer of the confining layer, or that are located in the Intensive Corrective Action Area, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream and re-plugging with carbon dioxide resistant cement at all depths~~, where appropriate~~.

109. Conservation Groups propose that owners or operators be required to perform corrective action on all wells that breach any layer of the confining zone or are located in the Intensive Corrective Action Area (not just those that are determined to need corrective action), to always use materials compatible with the carbon dioxide stream, and to re-plug wells with carbon dioxide resistant cement at all depths.

110. The purpose of requiring that corrective action be taken on wells determined to breach any layer of the confining layer or that are located in the Intensive Corrective Action Area, in addition to other wells determined to need corrective action, is to mitigate leakage risk. Since wells breaching any depth of the confining layer weaken it, they should be treated as a potential leakage pathways. CG' Ex. 5 at CG-153-154.

111. The purpose of requiring that owners or operators performing corrective action on wells within the AoR always use materials compatible with the carbon dioxide stream—not just "where appropriate"—and re-plug wells with carbon dioxide resistant cement at all depths is to ensure that well that has the potential to come into contact with CO_2-bearing brine is plugged with materials less likely to degrade in that environment. Additionally, CO_2-resistant materials must be used at all depths because CO_2 does not remain confined to the injection interval within the wellbore and can migrate upward along the well, contacting cement and casing at every depth

between the injection zone and the surface. CG' Ex. 5 at CG-119-120.

112. OCD witnesses testified that the proposed rules already require re-plugging of any existing penetrations within the AoR with CO_2 resistant cement. 7/28/26 Tr. 337:12-16. However, the OCD's proposed rule does not automatically require such re-plugging—instead, it requires that the owner or operator identify all penetrations in the AoR and provide a description of information like the well's record of plugging or completion. *See* OCD Final Redline Exhibit 2C at 7.

20. Conservation Groups' proposed amendments to 19.15.43.9.E(5) NMAC– AoR reevaluation

113. At 19.15.43.9.E(5) NMAC, Conservation Groups propose:

19.15.43.9.E(5) An initial AoR reevaluation shall occur no later than two years following the commencement of injection operations, or if the owners or operators fail to confirm the model's validity as specified in Subparagraph (b) of Paragraph (3) of Subsection E of 19.15.43.9 NMAC, the difference between the measured and modeled increases in pressure exceeds either 20 percent of the modeled increase in pressure or 50 kilopascals, the plume is detected in a monitoring well the plume was not expected to reach or more than one month earlier than expected, a seismic event greater than or equal to moment magnitude 2.0 occurs within the modeled pressure footprint, injection commences by another operator in the same formation or a hydraulically connected zone within the pressure footprint, or the owner, operator, or regulator discovers a previously unidentified well, fault, or fracture within the AoR. This early reevaluation must be used to confirm the accuracy and reliability of predictive modeling results submitted as part of the original permit application. Upon demonstration to the director, in accordance with Subparagraph (d) of Paragraph (5) of Subsection E of 19.15.43.9 NMAC, that the predictive modeling appropriately represents site conditions, AoR reevaluation frequency may be reduced to a minimum of once every four years. When conducting an AoR reevaluation an owner or operator must:

114. Conservation Groups propose to add conditions that would require an owner or operator to conduct an initial AoR reevaluation, including the failure to confirm the model's validity by placement of a monitoring well where the plume is modeled to be after one year of injection, significant differences between the modeled and actual increases in pressure, unexpectedly early arrival of the plume at a monitoring well, a significant seismic event, injection by another operator in the same formation or connected zone, or discovery of a previously unidentified penetration in the AoR.

115. The purpose of requiring early reevaluation if the pressure increase does not

conform to modeled expectations is to ensure the model is consistent with the subsurface it was supposed to represent. If the model is not consistent, then the AoR is no longer defensible, because it may not include evaluation of legacy wells, faults, and fractures implicated by the actual pressure footprint. The proposed language establishes two tiers for lack of conformance in simulated pressure increases (a 20% deviation or 50 kilopascal increase). CG' Ex. 5 at CG-156-157.

116. OCD witnesses asserted that a significant deviation between the observed pressures and the monitored pressures would warrant early reevaluation of the AoR, but they acknowledged that this requirement was not quantitative in the regulations. 7/28/26 Tr. 479:13-24. However, the regulations require that the **owner or operator** describe in their AOR and corrective action plan the monitoring or operational conditions that would warrant an early reevaluation of the AoR. 19.15.43.9.E(2)(b)(ii) NMAC. That requirement is distinct from a regulatory requirement that reevaluation occur if a certain condition occurs.

117. The purpose of requiring early reevaluation if the plume is detected in a monitoring well the plume was not expected to reach or more than one month earlier than expected is to ensure that pre-injection models accurately predicted plume behavior. If the plume migrates in an unexpected direction or at an unexpected rate, it may encounter legacy wells, faults, or confining-zone weaknesses that the corrective action plan did not address. Direct observational evidence that the CO_2 plume is moving as anticipated in the model would demonstrate reliability of model; without that confirmation, the AoR should be reevaluated. CG' Ex. 5 at CG-150.

118. OCD witnesses similarly asserted that a significant deviation between the actual and modeled location of the plume within a certain timeframe would warrant early reevaluation

of the AoR, but they acknowledged that this requirement was not quantitative in the regulations. 7/28/26 Tr. 479:13-24. However, the regulations require that the **owner or operator** describe in their AoR and corrective action plan the monitoring or operational conditions that would warrant an early reevaluation of the AoR. 19.15.43.9.E(2)(b)(ii) NMAC. That requirement is distinct from a regulatory requirement that reevaluation occur if a certain condition occurs.

119. The purpose of requiring early reevaluation if a seismic event greater than or equal to moment magnitude 2.0 occurs within the modeled pressure footprint is to ensure the AoR appropriately accounts for the effects of pressure from the injected CO_2. Seismic loading from induced events can degrade wellbore cement, creating secondary leakage pathways that compound the original fault-related migration, and the occurrence of an unexpected and significant seismic event demonstrates that the AoR did not accurately account for the effects of increased pressures from injection. CG' Ex. 5 at CG-129; *see* CG' Ex. 5 at CG-156.

120. The purpose of requiring early reevaluation if injection commences by another operator in the same formation or a hydraulically connected zone within the pressure footprint is to account for the interaction of the two individual pressure fields. When multiple injection projects occur in the same formation, they can push the total elevated pressure beyond what any individual well's model would predict, posing a risk to USDWs. If each well is modeled separately, the resulting AoRs are undersized. EPA's guidance acknowledges the need to account for inter-well effects, which this proposal would implement by requiring early reconsideration of the AoR when new projects commence injection. CG' Ex. 5 at CG-146.

121. The purpose of requiring early reevaluation if the owner or operator discovers a previously unidentified well, fault, or fracture within the AoR is to ensure the AoR is updated to account for what could be a path for pressure-driven brine or CO_2 to reach a drinking water

aquifer. CG' Ex. 5 at CG-131.

122. Although EPA did not adopt specific triggers for early AoR reevaluation in the federal rules, New Mexico is able to adopt more stringent thresholds in its Class VI rules. 8/3/26 Tr. 1293:3-11.

123. Oxy objected that Conservation Groups' proposed automatic triggers ignore site-specific variability. Oxy Reb. Ex. 3 at ¶ 27. However, leaving it to the owner or operator to define conditions that would warrant an AoR reevaluation under 19.15.43.9.E(2)(b)(ii) NMAC fails to incentivize the owner or operator to define those conditions conservatively. Setting a floor, in contrast, ensures baseline conditions that would require any owner or operator to reevaluate the AoR.

124. Oxy witnesses claimed that its Class VI injection projects demonstrate that projects successfully operate at federal 5-year reevaluation frequencies. Oxy Reb. Ex. 3 at ¶ 26. However, they also acknowledged that **none** of their projects are yet operational. 7/31/26 Tr. 1107:24-25.

21. Conservation Groups' proposed amendments to 19.15.43.9.F(1)(a)(v) NMAC– Self-insurance as a qualifying instrument

125. At 19.15.43.9.F(1)(a)(v) NMAC, Conservation Groups propose:

19.15.43.9.F(1)(a) The financial responsibility instrument(s) used must be from the following list of qualifying instruments:

…

~~**(v)** Self insurance (i.e., Financial Test and Corporate Guarantee).~~

126. Conservation Groups propose to eliminate an owner or operator's option of providing "self-insurance," sometimes referred to as "self-bonding," to demonstrate financial responsibility.

127. The purpose for this proposal is to reduce risk to the state and to taxpayers.[1] Any company can fail, passing decommissioning costs to the state and compromising the regulator's ability to pursue necessary enforcement. This was demonstrated by bankruptcies of coal companies regulated under the Surface Mining Control and Reclamation Act and affirmed by conclusions of the Government Accountability Office. CG' Ex. 3 at CG-064-068.

128. The Class VI program is particularly ill-suited to the use of self-bonding because Class VI facilities require financial assurance coverage for much longer than typical industrial projects, with the longest period coming after the point where the well is plugged and the facility is no longer generating revenue. CG' Ex. 3 at CG-068-069.

129. As OCD witnesses testified that assessing a corporate guarantee is a "little more complicated" than assessing a bond, 7/28/26 Tr. 453:12-23, removing the option of self-insurance and corporate guarantees should not require extra permit review time from OCD.

130. OCD witnesses asserted that self-insurance may provide financial assurance that is equal to or greater than that available through third-party insurance products. OCD Ex. 25 at 7-8 [Eales Reb. Test.]. However, an operator that would be otherwise eligible to self-bond should not have a significant problem obtaining another type of financial assurance—and one that does not present the same risks—as the BLM determined when eliminating the use of self-bonding for the hardrock mining industry. CG Ex. 3 at CG-067-068.

131. Oxy witnesses asserted that eliminating self-insurance would place New Mexico "out of step with the federal program and most primacy states." Oxy Reb. Ex. 3 at ¶ 32. However, the standards in the federal floor are intended to set a **floor**, rather than ceiling, for individual state programs, EPA's federal rules allowing self-insurance were promulgated **before**

[1] Until a fee schedule for the Stewardship fund has been established, the public would bear any "gap between actual expended costs and financial assurance." 7/31/26 Tr. 1056:5-18.

the self-bonded coal mine operator bankruptcies,[2] and both Colorado and Louisiana chose to eliminate self-insurance in their state programs. 7/31/26 Tr. 1037:15 to 1038:5.

132. Louisiana has been granted primacy by the EPA, 7/31/26 Tr. 1051:12-14, and its financial assurance provisions are more stringent than the federal rules, 7/31/26 Tr. 1055:21-25. Although Colorado has not yet been granted primacy, the EPA has determined that the Colorado program met all the stringency requirements of the EPA program. 7/31/26 Tr. 1051:15-25.

22. Conservation Groups' proposed amendments to 19.15.43.9.F(1)(a)(vii) NMAC– Qualifying instruments, catch-all

133. At 19.15.43.9.F(1)(a)(vii) NMAC, Conservation Groups propose:

19.15.43.9.F(1)(a) The financial responsibility instrument(s) used must be from the following list of qualifying instruments:

…

~~**(vii)** Any other instrument(s) satisfactory to the director.~~

134. Conservation Groups propose to eliminate the option for the OCD director to approve alternative instruments to demonstrate financial responsibility. The purpose for removing this provision is that it is unnecessary, because the other instruments specified in the draft rule are adequate. CG' Ex. 3 at CG-069.

135. Oxy witnesses objected to this proposal because it limits the Director's flexibility and precludes the use of future financial assurance products. Oxy Reb. Ex. 3 at ¶ 35. However, once an operator is in a place of financial distress, it is too late for the OCD to compel that operator to provide a replacement. Conservation Groups' proposal would limit available financial assurance mechanisms to those vetted by the OCC, and the OCC could entertain a new

[2] Although the Environmental Financial Advisory Board (EFAB) supported EPA's inclusion of self-insurance and third-party insurance in the federal Class VI rules, EFAB's recommendations were rendered moot by the subsequent developments of the 2015 and 2016 coal mine operator bankruptcies. After those coal mine bankruptcies, the Government Accountability Office issued a report strongly recommending against the use of self-insurance or self-bonding, and the Bureau of Land Management eliminated the use of self-insurance in hardrock mining. And although the federal Class VI rules from 2010 allowing self-insurance are still in place, they are a floor, and allow states to adopt more stringent requirements. 7/31/26 Tr. 1045:9 to 1047:10.

public rulemaking in the future to consider new, reliable forms of financial assurance that emerge. 7/31/26 Tr. 1039:17 to 1040:8.

23. Conservation Groups' proposed amendments to 19.15.43.9.F(1)(d)(ii) NMAC– Cancellation of financial instrument

136. At 19.15.43.9.F(1)(d)(ii) NMAC, Conservation Groups propose:

19.15.43.9.F(1)(d)(ii) Cancellation—for purposes of this part, an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the director. The cancellation must not be final for 120 days after receipt of cancellation notice. The owner or operator must provide an alternate financial ~~responsibility demonstration~~ mechanism within 60 days of notice of cancellation, and if an alternate financial ~~responsibility demonstration~~ mechanism is not acceptable (or possible), ~~any funds from the instrument being cancelled must be released~~ the provider of the financial instrument being canceled must release all funds from that instrument to the Director within 60 days of notification by the Director.

137. Conservation Groups propose that in the event a financial institution elects to cancel, terminate, or fail to renew a financial instrument, the provider of the financial instrument being canceled must release all funds from that instrument to the Director.

138. The purpose of this proposal is to eliminate ambiguity over what follows if a financial institution seeks to cancel a financial assurance instrument and no replacement financial instrument is provided. The proposed amendment clarifies that if no replacement financial instrument is provided, the original financial instrument is forfeit and the financial institution must release the funds to the Director. North Dakota's approved Class VI program incorporates a similar clarifying edit. CG' Ex. 3 at CG-070-071.

24. Conservation Groups' proposed amendments to 19.15.43.9.F(1)(f)(i) NMAC– Combination of instruments for specific geologic sequestration phase

139. At 19.15.43.9.F(1)(f)(i) NMAC, Conservation Groups propose:

19.15.43.9.F(1)(f)(i) In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance (i.e., ~~self insurance or~~ performance bond), for example trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, escrow account, and

insurance. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.

140. Conservation Groups propose to remove reference to self-insurance in the provision discussing an owner or operator's combining of more than one instrument for a specific geologic phase. The purpose of this proposal is to align the rule language with Conservation Groups' proposal at 19.15.43.9.F(1)(a)(v) to eliminate the option of self-bonding. CG' Ex. 3 at CG-071.

25. Conservation Groups' proposed amendments to 19.15.43.9.F(1)(f)(v) NMAC– Criteria for self-insurance

141. At 19.15.43.9.F(1)(f)(v) NMAC, Conservation Groups propose:

~~**19.15.43.9.F(1)(f)(v)** An owner or operator or its guarantor may use self insurance to demonstrate financial responsibility for geologic sequestration projects. In order to satisfy this requirement the owner or operator must meet a Tangible Net Worth of an amount approved by the director, have a net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost, have assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost, and must submit a report of its bond rating and financial information annually. In addition the owner or operator must either: Have a bond rating test of AAA, AA, A, or BBB as issued by Standard & Poor's or Aaa, Aa, A, or Baa as issued by Moody's; or meet all of the following five financial ratio thresholds: A ratio of total liabilities to net worth less than 2.0; a ratio of current assets to current liabilities greater than 1.5; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; A ratio of current assets minus current liabilities to total assets greater than −0.1; and a net profit (revenues minus expenses) greater than 0.~~

142. Conservation Groups propose to eliminate the provision establishing the requisite qualifications for an operator to be eligible for self-insurance. The purpose of this proposal is to align the rule language with Conservation Groups' proposal at 19.15.43.9.F(1)(a)(v) to eliminate the option of self-bonding. CG' Ex. 3 at CG-072.

143. The self-bonding criteria provided under SMCRA were at least as stringent as the criteria proposed here, and still failed to predict or prevent the failure of operators holding hundreds of millions of dollars of reclamation liability. CG' Ex. 3 at CG-072.

26. Conservation Groups' proposed amendments to 19.15.43.9.F(1)(f)(vi) NMAC– Criteria for corporate financial test criteria

144. At 19.15.43.9.F(1)(f)(vi), Conservation Groups propose:

~~**19.15.43.9.F(1)(f)(vi)** An owner or operator who is not able to meet corporate financial test criteria may arrange a corporate guarantee by demonstrating that its corporate parent meets the financial test requirements on its behalf. The parent's demonstration that it meets the financial test requirement is insufficient if it has not also guaranteed to fulfill the obligations for the owner or operator.~~

145. Conservation Groups propose to eliminate the provision allowing an owner or operator not able to meet the corporate financial test criteria to arrange a corporate guarantee by demonstrating that its corporate parent meets the financial test requirements on its behalf. The purpose of this proposal is to align the rule language with Conservation Groups' proposal at 19.15.43.9.F(1)(a)(v) to eliminate the option of self-bonding, as corporate parents are subject to the same dynamics and risks as their subsidiaries, and financial condition criteria are similarly inadequate to predict or prevent bankruptcies or other failures. CG' Ex. 3 at CG-072-073.

146. Colorado and Louisiana chose to eliminate corporate guarantees as a financial responsibility option in their state programs. CG' Ex. 3 at CG-073. Louisiana has been granted primacy by the EPA, 7/31/26 Tr. 1051:12-14, and its financial assurance provisions are more stringent than the federal rules, 7/31/26 Tr. 1055:21-25. Although Colorado has not yet been granted primacy, the EPA has determined that the Colorado program met all the stringency requirements of the EPA program. 7/31/26 Tr. 1051:15-25.

27. Conservation Groups' proposed amendments to 19.15.43.9.G NMAC– Injection well construction requirements

147. Conservation Groups propose the following amendments to 19.15.43.9.G NMAC:

19.15.43.9.G(1) General. The owner or operator must ensure that all Class VI and monitoring wells are constructed and completed to:

(a) Prevent the movement of fluids into or between USDWs or into any unauthorized zones;

(b) Permit the use of appropriate testing devices and workover tools; and

(c) Permit continuous monitoring of the annulus space between the injection tubing and long string casing.

19.15.43.9.G(2)(a) Casing and cement or other materials used in the construction of each Class VI well and monitoring wells must have sufficient structural strength and be designed for the life of the geologic sequestration project. All well materials must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the director. The casing and cementing program must be designed to prevent the movement of fluids into or between USDWs. In order to allow the Director to determine and specify casing and cementing requirements, the owner or operator must provide the following information:

19.15.43.9.G(2)(b) Surface casing for all Class VI wells and monitoring wells shall be set and cemented through the base of the deepest known USDW and must extend into an underlying confining unit, such as a competent shale formation. The casing must be cemented with a volume sufficient to achieve full cement return from the casing shoe to the surface.

19.15.43.9.G(3)(a) Tubing and packer materials used in the construction of each Class VI well and monitoring wells must be compatible with fluids with which the materials may be expected to come into contact across all zones for all depths and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the director.

148. Conservation Groups propose to require that monitoring wells be constructed to the same standards as injection wells. The purpose of this proposal is that monitoring wells are either expected to or have the possibility of encountering the CO_2 plume, and for that reason, should be constructed throughout the wellbore with materials that have the best chance of withstanding the corrosive environment presented by contact with supercritical CO_2 dissolved in brine. CG' Ex. 5 at CG-159.

149. OCD witnesses generally agreed with the intent of this proposed change, as monitoring wells—like injection wells—should be "designed, constructed, operated, and maintained in a manner that protects USDWs." Requiring comparable standards for monitoring wells is, they agreed, "consistent with the overall objectives of the Class VI program. However, OCD witnesses did not support requirements that would mandate tubing-and-packer completions or other specific construction features for all monitoring wells, since such wells can be completed at different depths and may not penetrate the confining or injection zones. OCD Ex. 22 at 21.

28. Conservation Groups' proposed amendments to 19.15.43.9.K NMAC– Testing and monitoring requirements

150. At 19.15.43.9.K NMAC, Conservation Groups propose:

19.15.43.9.K. Testing and monitoring requirements. The owner or operator of a Class VI well must prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic sequestration project is operating as permitted and is not endangering USDWs. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The testing and monitoring plan must be submitted with the permit application, for director approval, and must include a description of how the owner or operator will meet the requirements of this section, including accessing sites for all necessary monitoring and testing during the life of the project and the specific statistical test to be used for groundwater monitoring before collecting data. The statistical test for groundwater monitoring must include the number and kinds of samples collected to establish background appropriate for the form of statistical test employed, a sample size as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected, a statistical method appropriate for the distribution of chemical parameters or hazardous constituents, an accounting for data below the limit of detection with one more statistical procedures that are protective of human health and the environment, inclusion of procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data, and a determination of an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit. It must also include a summary of community engagement activities conducted to develop a plan that addresses project-related risks. Testing and monitoring associated with geologic sequestration projects must, at a minimum, include:

151. Conservation Groups propose additions to the testing and monitoring plan to ensure that operators use formal statistical approaches. The Resource Conservation and Recovery Act ("RCRA"), which also the management of hazardous waste, provides a model for rigorous monitoring. CO_2 injection projects warrant at least as rigorous monitoring, as the contaminant source is larger, the timescales are larger, and the subsurface heterogeneity is comparable. There is no scientific basis for requiring less rigorous monitoring requirements for CO_2 storage facilities, as they post comparable or greater risks to the same aquifers. CG' Ex. 5 at CG-160-161.

152. OCD witnesses asserted that although groundwater monitoring programs should be robust, the proposed amendments are overly prescriptive and have too much technical detail for regulatory text. OCD Ex. 22 at 25-26. However, OCD witnesses did not address why such detail would be appropriate in the context of one hazardous waste disposal program, RCRA, and not another, Class VI CO_2 injection.

29. Conservation Groups' proposed amendments to 19.15.43.9.K(4)(b) NMAC– Groundwater monitoring well monitoring frequency and spatial distribution

153. Conservation Groups propose the following amendments to 19.15.43.9.K(4)(b) NMAC:

19.15.43.9.K(4) Quarterly monitoring of the groundwater quality and geochemical changes above the confining zone(s) that may be a result of carbon dioxide movement through the confining zone(s) or additional identified zones including:
…

(b) the monitoring frequency and spatial distribution of no fewer than four monitoring wells based on baseline geochemical data that has been collected under Subparagraph (f) of ~~Pararaph~~ Paragraph (1) of Subsection C of 19.15.43.9 NMAC, ~~and~~ on any modeling results in the area of review evaluation required by Paragraph (3) of Subsection E of 19.15.43.9 NMAC, a maximum-risk scenario simulation, and two simulations in which computational model grid spacing is increased and decreased by a factor of two. The monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under Section 40 CFR 144.12.

154. At 19.15.43.9.K(4)(b), Conservation Groups propose that quarterly groundwater monitoring be based on no fewer than four wells. Conservation Groups further propose that the frequency and spatial distribution of those wells be based on a maximum-risk scenario simulation and on two simulations in which the computational model grid spacing is increased and decreased by a factor of two.

155. The purpose of requiring a minimum of four groundwater monitoring wells is to ensure there is a sufficient monitoring information to characterize groundwater contamination. Changes in water chemistry are not homogenous, so more wells are preferable, but four as a minimum would prevent an operator from using too few groundwater monitoring wells. 8/3/26 Tr. 1353:18 to 1354:8.

156. OCD and Oxy witnesses objected to a mandatory minimum number of monitoring wells because they believe the appropriate number of monitoring wells is site-specific and that discretion should be left to the agency. OCD Ex. 22 at 26-27, Oxy Reb. Ex. 3 at ¶ 44. However, a plume can move in any four cardinal directions, as well as up or down, so a minimum of four wells increases monitoring reliability. 8/3/26 Tr. 1266: 17-21. Furthermore, if a project requires

more, the operator can go above that floor to ensure there are not too few monitoring wells. 8/3/26 Tr. 1266:21 to 1267:1.

157. The purpose of requiring that the network monitoring design account for a maximum-risk scenario is to ensure the design takes into consideration scenarios the model is most likely to miss, including migration along an undetected fault, flow through a legacy wellbore the inventory missed, or pressure-driven brine displacement at the AoR periphery. CG' Ex. 5 at CG-162. The purpose of requiring that the network monitoring design account for model grid spacing is to address uncertainty in models of fluid flow in the subsurface. CG' Ex. 5 at CG-163.

158. OCD witnesses objected to the placement of monitoring wells based on specific modeling scenarios as overly prescriptive. OCD Ex. 22 at 27. However, other injection projects have experienced unexpected migration that was initially missed by monitoring designed for the expected plume trajectory. This scenario might be avoided by monitoring well placement informed by worst-case scenarios. Furthermore, the proposed rule language does not prescribe a specific location, but instead ensures the monitoring network is designed to detect the scenarios that matter most. 8/3/26 Tr. 1267:8-16.

30. Conservation Groups' proposed amendments to 19.15.43.9.K(7) NMAC– Testing and monitoring of the extent of the carbon dioxide plume and presence or absence of elevated pressure

159. At 19.15.43.9.K(7) NMAC, Conservation Groups propose:

19.15.43.9.K(7) Testing and continuous monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) and identification of excess pressure by calculating the absolute and excess pressure divided by hydrostatic pressure, by using:

160. Conservation Groups propose that monitoring be used to track the extent of the CO_2 plume and presence or absence of elevated pressure be continuous, and that identification of excess pressure be calculated in a specific way. The purpose of this proposal is to more

accurately and immediately identify elevated formation pressure, which is the primary mechanism by which CO_2 injection can contaminate drinking water aquifers beyond movement of the CO_2 plume itself. Continuous monitoring is necessary because existing injection projects that monitored only at scheduled intervals were unable to identify the timing of discrete pressure events with the resolution needed to trigger a timely operational response. CG' Ex. 5 at CG-164-166.

31. Conservation Groups' proposed amendments to 19.15.43.9.K(9) NMAC– Surface air monitoring

161. At 19.15.43.9.K(9) NMAC, Conservation Groups propose:

19.15.43.9.K(9) ~~the director may require~~ surface air monitoring is required to detect movement of carbon dioxide that could endanger a USDW, including in oil and gas fields or other areas with a high density of legacy wellbores.

(a) Design of Class VI soil gas and surface air ~~(if required)~~ monitoring must be based on potential risks to USDWs within the area of review.

(b) The monitoring frequency and spatial distribution of soil gas and surface air monitoring ~~(if required)~~ must be based on baseline geochemical data that has been collected under Subparagraph (f) of Paragraph (1) of Subsection C of 19.15.43.9 NMAC and on any modeling results in the area of review evaluation required by Paragraph (3) of Subsection E of 19.15.43.9 NMAC. The monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under Subsection B of 19.15.42.9 NMAC.

162. Conservation Groups propose that surface air monitoring be required because such monitoring can identify CO_2 releases that bypass monitoring wells entirely, including leaks through failed legacy wells or unknown penetrations that vent to the surface. CG' Ex. 5 at CG-166.

163. Oxy witnesses asserted that surface air monitoring is effective only over a small area and is unnecessarily costly. Oxy Reb. Ex. 3 at ¶ 46. Indeed, conventional CO_2 detectors would require a large and expensive array to provide meaningful data for CO_2 injection projects. 8/3/26 Tr. 1371:4-8. However, eddy covariance towers measure over very large areas and therefore not many would be needed. 8/3/26 Tr. 1277:5-15; 8/3/26 Tr. 1371:9-13.

32. Conservation Groups' proposed amendments to 19.15.43.9.K(10) NMAC– Seismicity monitoring

164. Conservation Groups propose the following amendments to 19.15.43.9.K(10) NMAC:

19.15.43.9.K(10) seismicity monitoring is required as part of the operational and post-injection monitoring requirements for all Class VI injection projects. The owner or operator must design and implement a site-specific seismic monitoring program capable of detecting and characterizing induced seismicity that may result from carbon dioxide injection activities. Responses to seismic events shall be conducted in accordance with protocols established by the oil conservation division.

(a) Design of Class VI seismicity monitoring program must be based on the potential risk of disturbing the confinement efficiency and endangering USDWs within the area of review.

(b) The owner or operator shall purchase a state-owned, distributed acoustic network of seismic sensors, the resulting data of which shall be owned by the state.

~~(b)~~(c) The spatial distribution of the monitoring network must be decided using baseline data and must incorporate the Seismic Hazard Assessment and other findings pursuant to Item (v) of Subparagraph (c) of Paragraph (1) of Subsection C of 19.15.43.9 NMAC to establish baseline microseismic activity.

(d) The seismic threshold metric must use Peak Ground Velocity, Peak Ground Acceleration, or other comparable metric approved by the director.

165. At 19.15.43.9.K(10)(b) NMAC, Conservation Groups propose that owners or operators be required to purchase a distributed acoustic network of seismic sensors, and that both the sensors and the resulting data be owned by the state. The purpose for this requirement is that effective seismic monitoring for induced seismicity to avoid threats to the seal integrity of CO_2 repositories requires a dense, spatially distributed sensor network capable of detecting small-magnitude events, locating them accurately in three dimensions, and measuring ground motion at relevant locations in real time. State ownership of seismic monitoring network and data ensures that state regulators receive seismic data directly and can evaluate without interference whether a seismic event has exceeded a relevant threshold. CG' Ex. 5 at CG-166-168.

166. OCD witnesses objected to this proposal as unnecessary because current OCD practice already requires that an operator use a state-approved seismometer and connect it to a state system that makes the data visible to the public. OCD Ex. 25 at 9. However, Conservation Groups' proposal does not conflict with the existing OCD practice. Instead, the proposal would require that an operator build on the existing monitoring network by filling in any gaps to

increase resolution at the site. 8/3/26 Tr. 1357:17 to 1358:2. If there are already sufficient monitoring devices present, the operator would not need to purchase further monitoring devices. 8/3/26 Tr. 1358:3-8.

167. At 19.15.43.9.K(10)(d) NMAC, Conservation Groups propose that the seismic threshold metric used must be Peak Ground Velocity or Peak Ground Acceleration. Damage to wellbore cement and opening of fracture pathways results from ground motion at the wellbore, rather than energy released at the earthquake's source. Using one of these two metrics ensures that seismic monitoring is calibrated to the threshold associated with risk of damage to infrastructure, rather than to a source-energy metric. CG' Ex. 5 at CG-168-169.

168. OCD and Oxy witnesses objected to this proposal as unnecessarily prescriptive and limiting as new methodologies arise. OCD Ex. 25 at 9; Oxy Reb. Ex. 3 at ¶ 48. However, Oxy witnesses acknowledged that both Peak Ground Velocity and Peak Ground Acceleration are valid approaches. Oxy Reb. Ex. 3 at ¶ 48. Allowing an owner or operator to use Peak Ground Velocity, Peak Ground Acceleration, or –as Conservation Groups' final proposed language provides—"other comparable metric approved by the director" would allow for emerging or equivalent methodologies to be used as well. 8/3/26 Tr. 1268:16-23.

33. Conservation Groups' proposed amendments to 19.15.43.9.K(12) NMAC– Periodic review of testing and monitoring plan

169. At 19.15.43.9.K(12) NMAC, Conservation Groups propose:

19.15.43.9.K(12) The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under this Part, operational data collected under Subsection I of 19.15.43.9 NMAC, ~~and~~ the most recent area of review reevaluation performed under Paragraph (5) of Subsection E of 19.15.43.9 NMAC, and new EPA standards regarding material compatibility for well infrastructure. An initial review of the testing and monitoring plan shall occur two years after injection begins, and at no time may exceed four years. Based on this review, the owner or operator shall submit an amended testing and monitoring plan or demonstrate to the director that no amendment to the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan must be approved by the director, must be incorporated into the permit, and are subject to the permit modification requirements at Subsection H of 19.15.42.11 NMAC or Subsection J of 19.15.42.11 NMAC, as appropriate. Amended plans or demonstrations shall be submitted to the director as follows:

170. Conservation Groups propose that the periodic review of the testing and monitoring plan include incorporation of new EPA standards regarding material compatibility for well infrastructure. As CO_2 injection into saline aquifers remains experimental, new information about the science of material behavior under CO_2 storage conditions is still evolving, informing best practices around construction of well infrastructure. Periodic recertification against current knowledge ensures new infrastructure would be built to the most current construction best practices. CG' Ex. 5 at CG-170.

34. Conservation Groups' proposed amendments to 19.15.43.9.L(2)(b) NMAC– Gauge malfunction or instrumentation failure reporting

171. At 19.15.43.9.L(2)(b) NMAC, Conservation Groups propose:

19.15.43.9.L(2) Report, within 30 days, the results of:
- **(a)** periodic tests of mechanical integrity;
- **(b)** gauge malfunction or instrumentation failure;
- **~~(b)~~(c)** any well workover; and,
- **~~(c)~~(d)** any other test of the injection well conducted by the permittee if required by the director.

172. Conservation Groups propose to require the reporting within 30 days of gauge malfunctions and instrumentation failures, as data that are missing, suspect, or interpolated across gaps cannot provide regulatory agencies with the ability to make accurate compliance determinations. CG' Ex. 5 at CG-171.

35. Conservation Groups' proposed amendments to 19.15.43.9.N(3) NMAC– Demonstration of alternative PISC timeframe

173. At 19.15.43.9.N(3) NMAC, Conservation Groups propose:

19.15.43.9.N(3) Demonstration of alternative post-injection site care timeframe. The director may approve, in consultation with EPA, an alternative post-injection site care timeframe other than the 50 year default, if an owner or operator can demonstrate ~~during the permitting process~~ after injection operations cease that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to Subsections C and D of 19.15.43.9, and must contain substantial evidence that the geologic sequestration project will no longer pose a risk of endangerment to USDWs at the end of the alternative post-injection site care timeframe.

174. Conservation Groups propose to amend the time at which an owner or operator can demonstrate that an alternative PISC timeframe is appropriate. Under the existing rule, this demonstration can be made during the permitting process—before injection has even begun. Until model predictions are aligned with a body of operational evidence demonstrating how a CO_2 plume will continue to migrate after injection ceases and where leakage risks exist, an owner or operator cannot demonstrate that an alternative PISC timeframe will ensure non-endangerment of USDWs. CG' Ex. 5 at CG-172-173.

175. OCD witnesses objected to this proposal, arguing that the PISC timeframe should be based on site-specific conditions, **including monitoring results**. OCD Ex. 22 at 30. "If modeling **and monitoring** demonstrate that pressure has dissipated, the plume is stable, and USDWs are not endangered," they testified, "an alternative PISC timeframe may be technically justified." *Id.* (emphasis added). And they cited a requirement that the operator make a non-endangerment demonstration during the PISC period as justification for opposing this proposal. 7/28/26 Tr. 330:3-10. But Conservation Groups do not dispute that monitoring results may justify a shortened PISC period. Instead, Conservation Groups' proposal changes the timing of when a demonstration of non-endangerment can be made in support of an alternative PISC. CG' Ex. 5 at CG-172-173.

176. OCD witnesses also acknowledged that no Class VI project in the United States has yet completed PISC or received site closure approval. 7/28/26 Tr. 330:17 to 331:2. Despite this lack of evidence that shortened PISCs are appropriate or could be adequately demonstrated to be safe at the permitting stage—before monitoring data have been collected—they testified that there was "no minimum time" to which a PISC period could theoretically be shortened during the permitting phase in OCD's proposed rule. 7/28/26 Tr. 330:11-16.

36. Conservation Groups' proposed amendments to 19.15.43.9.O(3) NMAC– Employee authorized to carry out emergency and remedial response plan

177. At 19.15.43.9.O(3) NMAC, Conservation Groups propose:

19.15.43.9.O(3) The owner or operator must have at least one employee on the premises or otherwise available at all times with the authority to carry out the emergency and remedial response plan.

178. Conservation Groups propose a new requirement at 19.15.43.9.O(3) NMAC that each owner or operator maintain at least one employee available at all times to carry out the emergency and remedial response plan. This proposal reflects both the severity of the potential accidents associated with CO_2 injection operations, CG' Ex. 5 at CG-174, as well as the reality that automated emergency shutdown systems can fail, as OCD witness Mr. Eales acknowledged. 7/28/26 Tr. 339:24 to 340:1.

179. Oxy witnesses objected to Conservation Groups' proposed requirement that an employee authorized to carry out the emergency and remedial response plan be present on the premises as unnecessarily costly and impractical. *See, e.g.,* Oxy Reb. Ex. 3 at ¶ 56-57. However, they acknowledged that the proposal offers an alternative compliance option—having an authorized employee simply be "otherwise available," 7/31/26 Tr. 1112:3-8—and stated that "the on-site part" was their "real concern" with the proposal, 7/31/26 Tr. 1113:20-21.[3]

37. Conservation Groups' proposed amendments to 19.15.43.9.O(4) NMAC– Scenarios necessitating cessation of injection

180. Conservation Groups propose the following amendments to 19.15.43.9.O(4) NMAC:

19.15.43.9.O(~~3~~)(4) If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, a significant seismic event has occurred, a statistically significant geochemical change is detected above the confining zone, a release of carbon dioxide is

[3] Oxy witnesses acknowledged that it already typically maintains "employees who could be called on to carry out an emergency response", 7/31/26 Tr. 1112:13-15—precisely what Conservation Groups request here. If this requirement were written into the rule, all operators would have to similarly maintain such safety practices. 7/31/26 Tr. 1113:14-20.

detected by surface air monitoring, fluid has migrated into an unauthorized zone, or a gauge has malfunctioned for longer than one week, the owner or operator must:

(a) immediately cease injection;

(b) take all steps reasonably necessary to identify and characterize any release, migration, or malfunction;

(c) notify the director within 24 hours; and

(d) implement the emergency and remedial response plan approved by the director.

181. At 19.15.43.9.O(4)(b) NMAC, Conservation Groups propose adding several conditions that would trigger that cessation of injection and remedying of the underlying issue. Under the existing rule, the operator must only cease injection if it obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW. The proposed amendment identifies additional conditions that warrant cessation of injection even if evidence of endangerment to USDWs has not yet materialized. *See* CG' Ex. 5 at CG-175-178; *see also* 8/3/26 Tr. 1372:18-25 (rule should not only protect USDWs but also prevent migration of CO_2 to unauthorized zones).

182. This proposal provides clarity to the operator about what circumstances warrant the cessation of injection. Seismic events can threaten seal integrity, implicating the potential opening of faults. CG' Ex. 5 at CG-175. Geochemical changes, releases of carbon dioxide detected by surface air monitoring, and migration of fluid into unauthorized zones demonstrate that the containment system is not performing as predicted and that fluids have breached or bypassed the seal through an undetected or underestimated pathway. CG' Ex. 5 at CG-166, 175-177. Monitoring gauge malfunctions lasting longer than one week do not directly provide evidence of endangerment to USDW; instead, they prevent an operator from obtaining the very evidence of endangerment that would warrant cessation of injection. CG' Ex. 5 at CG-177-178.

V. THE HEARING RECORD UNDERMINES THE OCD's AND OXY'S TECHNICAL SHOWING

183. The OCD's case rested on six witnesses, five of whom are New Mexico Tech

contractors or subcontractors rather than OCD staff. 7/27/26 Tr. 46:12-20. On cross-examination and on questioning by the OCC, those witnesses corrected their own testimony, reversed positions taken in written rebuttal, disclaimed familiarity with the matters their rebuttal assumed, and conceded that much of the protection the OCD attributes to its rule will reside in guidance that does not yet exist.

Justin Wrinkle

184. Mr. Wrinkle, the OCD's program manager and its only staff witness, testified that no member of the three-person team is a field inspector and that Class VI inspection would instead fall to the existing inspection force, 7/28/26 Tr. 365:13 to 366:2, and that the number of staff working on cost or bonding analysis for the Class VI program is "zero," 7/28/26 Tr. 370:11-16.

185. Most significantly, Mr. Wrinkle contradicted the premise of the OCD's opposition to third-party verification. Asked whether the OCD could replicate geologic or seismic modeling, he answered: "No. We don't have that capability." 7/28/26 Tr. 361:5-6. The OCD has no modeling software or hardware, 7/28/26 Tr. 362:3-7, and intends to contract the review to New Mexico Tech—"that would be our third party tech vetting for that," 7/28/26 Tr. 361:11-17. Asked how the OCD would then evaluate its contractor's conclusions, he acknowledged the problem: "short of hiring another contractor to vet that contractor, I think there is a risk there," adding that he was speaking "as a layman." 7/28/26 Tr. 439:3-16.

Hassan Khaniani

186. Dr. Khaniani's written rebuttal opposed third-party verification on the ground that public notice and comment already provide opportunities for outside technical review. OCD Ex. 23 at 6-7. On cross-examination, however, he was unaware that Class VI applications are

frequently redacted before they are circulated for public comment, 7/28/26 Tr. 245:11 to 246:9, and confirmed that he is not familiar with how EPA reviews Class VI permits at all, 7/28/26 Tr. 287:10-17. On redirect, Dr. Khaniani conceded that he did not draft the confidentiality provision, is not an attorney, and that confidentiality questions belonged to another panel. 7/28/26 Tr. 260:14 to 261:2.

Matthew Eales

187. Mr. Eales reversed or abandoned several positions taken in his written rebuttal. He withdrew his opposition to the confining-zone criterion and adopted it. 7/27/26 Tr. 140:15 to 141:4. After reading the emergency response provision aloud on the stand he conceded, "So it is required in the rule. But maybe I'm thinking that the request was a little further than I thought it was." 7/28/26 Tr. 386:17 to 387:8. Asked to identify the provision that allows local responders to "build upon" the rule's requirements—the premise of his rebuttal—he answered, "[n]o, it is not specified within the rule." 7/28/26 Tr. 399:1-5. He also acknowledged that the OCD neither has nor is aware of the training requirements of the county and city response teams on which his rebuttal relied. 7/28/26 Tr. 387:15-21.

188. Mr. Eales also rejected proposals on premises that the rule does not support. He opposed isotopic monitoring on the basis that "the rule does require surface CO_2 monitoring," 7/27/26 Tr. 156:17-22, when surface air monitoring is in fact discretionary, 7/27/26 Tr. 102:5-9. He deferred seismic threshold metrics to the New Mexico Bureau of Geology, which he conceded "doesn't regulate" seismic threshold metrics, 7/27/26 Tr. 160:3-7, and which he misnamed on four separate occasions, 7/27/26 Tr. 156:9; 159:13; 7/27/26 Tr. 160:3; 7/28/26 Tr. 342:23.

OCD Witnesses

189. OCD's witnesses uniformly deferred the operative content of the rule to guidance. Mr. Wrinkle confirmed that the guidance and frequently asked questions have not been written and would be needed specifically for the areas in which the OCD rule would exceed the federal floor. 7/29/26 Tr. 435:13 to 436:21. Dr. Schnaar confirmed that guidance is not binding on operators. 7/29/26 Tr. 574:6-10.

Tiffany Wallace

190. Ms. Wallace, one of Oxy's two witnesses, offered policy recommendations rather than expert evidence. Ms. Wallace confirmed that she is not a certified public accountant, not a chartered financial analyst, and has held no corporate treasury or controller position, and that her opinions on working capital were offered in her capacity as a policy witness. 7/31/26 Tr. 1099:20 to 1100:12. She conceded that capital deployed to acquisitions or shareholder returns is not available to plug a well and that reduced working capital "could indicate" reduced capacity to respond to emergencies. 7/31/26 Tr. 1100:22 to 1101:2; 1102:7-12.

Caroline Wachtman

191. Ms. Wachtman's testimony undermined several of her objections. Ms. Wachtman confirmed that Oxy has no operating Class VI project, 7/31/26 Tr. 1103:9-12, undercutting her claim that five-year reevaluation intervals "operate successfully" of any operational foundation. Ms. Wachtman also testified that Oxy acquired 3D seismic for its Ector County project, 7/31/26 Tr. 1134:12-15; maps and evaluates all faults rather than only those transecting the confining zone, 7/31/26 Tr. 1135:14-21; front-loaded baseline geochemical sampling before injection, 7/31/26 Tr. 1167:4-23; and manages the size of its pressure plume through brine withdrawal wells, a practice Ms. Wachtman conceded most projects do not employ, 7/31/26 Tr. 1164:17 to

1165:19. Finally, Ms. Wachtman testified that Oxy's proposal to lengthen the emergency and remedial response plan review cycle from three years to five was "purely to track federal" requirements and reflected no judgment about the protection of drinking water. 7/31/26 Tr. 1160:7-12.

CONCLUSION

Based on the complete record, Conservation Groups request the OCC to adopt Conservation Groups' final proposals in their entirety. Conservation Groups further request that, if the OCC adopts rules in this proceeding, it does so subject to Conservation Groups' preserved objection that neither the OCC nor the OCD has statutory authority to promulgate them, which Conservation Groups do not waive by participating in this rulemaking or by proposing the amendments set forth above.

EXHIBIT 26

EXHIBIT 26-A

CONSERVATION GROUPS' POST-HEARING PROPOSED AMENDMENTS TO 19.15.41 NMAC

TITLE 19 NATURAL RESOURCES AND WILDLIFE
CHAPTER 15 OIL AND GAS
PART 41 PROCEDURES FOR DECISION MAKING

19.15.41.1 ISSUING AGENCY: Oil Conservation Commission.
[19.15.41.1 NMAC – N, xx/xx/2026]

19.15.41.2 SCOPE: 19.15.41 NMAC applies to persons constructing, operating or closing a sequestration facility or engaged in the injection of carbon dioxide for the purposes of geologic sequestration under the Geologic Carbon Dioxide Storage Stewardship Act.
[19.15.41.2 NMAC – N, xx/xx/2026]

19.15.41.3 STATUTORY AUTHORITY: 19.15.41 NMAC is adopted pursuant to the Geologic Carbon Dioxide Storage Stewardship Act, Sections 74-14-1 through 74-14-7 and the Oil and Gas Act, Section 70-2-6, 70-2-11, and Paragraph (15) of Subsection B of Section 70-2-12 NMSA 1978.
[19.15.41.3 NMAC – N, xx/xx/2026]

19.15.41.4 DURATION: Permanent.
[19.15.41.4 NMAC – N, xx/xx/2026]

19.15.41.5 EFFECTIVE DATE: Day, Month, Year, unless a later date is cited at the end of a section.
[19.15.41.5 NMAC – N, xx/xx/2026]

19.15.41.6 OBJECTIVE: To regulate the permitting, construction, operation and closure of sequestration facilities, the injection of carbon dioxide for the purposes of geologic sequestration and to maintain primary enforcement authority for Safe Drinking Water Act (42 U.S.C. 300f et seq.) Underground Injection Control (UIC) program for UIC Class VI wells.
[19.15.41.6 NMAC – N, xx/xx/2026]

19.15.41.7 DEFINITIONS: The following definitions apply to this part for underground injection control programs:

A. Definitions beginning with the letter "A".

(1) "Administrator" means the Administrator of the United States Environmental Protection Agency (U.S. EPA), or an authorized representative.

(2) "Application" means a submission by an individual or entity, using the prescribed forms, to request authorization for underground injection activities, inclusive of any subsequent amendments, updates, or supplements to the original submission.

(3) "Aquifer" means a geological "formation," group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

"Area of review" means the area surrounding an injection well described according to the criteria set forth in Subsection E of 19.15.43.9 NMAC ~~§ 40 CFR 146.06 or in the case of an area permit, the project area plus a circumscribing area the width of which is either one quarter of a mile or a number calculated according to the criteria set forth in § 40 CFR 146.06~~.

B. Definitions beginning with the letter "B". [RESERVED].

C. Definitions beginning with the letter "C".

(1) "Cesspool" means a "drywell" that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom or perforated sides.

(2) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

D. Definitions beginning with the letter "D".

(1) "Director" means the director of the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division.

(2) "**Draft permit"** means a document prepared under Subsection B of 19.15.41.8 NMAC indicating the director's decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in Subsection A

of 19.15.41.8 NMAC are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in Subsection A of 19.15.41.8 NMAC is not a "draft permit."

(3) "Drilling mud" means a heavy suspension used in drilling an "injection well," introduced down the drill pipe and through the drill bit.

(4) "Drywell" means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.

E. Definitions beginning with the letter "E".

(1) "Eligible Indian Tribe" is a Tribe that meets the statutory requirements established at 42 U.S.C. 300j-11(b)(1).

(2) "Emergency permit" means a UIC "permit" issued in accordance with Section 40 CFR 144.34.

(3) "Environmental protection agency" ("EPA") means the United States environmental protection agency.

(4) "Exempted aquifer" means an "aquifer" or its portion that meets the criteria in the definition of "underground source of drinking water" but which has been exempted according to the procedures in Subsection D of 19.15.42.8 NMAC.

(5) "Existing injection well" means an "injection well" other than a "new injection well."

F. Definitions beginning with the letter "F".

(1) "Facility or activity" means any UIC "injection well," or any other facility or activity that is subject to regulation under these regulations.

(2) "Fluid" means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

(3) "Formation" means a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

(4) "Formation fluid" means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids, such as "drilling mud."

G. Definitions beginning with the letter "G".

(1) "Generator" means any individual or entity, identified by a specific site location, whose actions or operations result in the creation of hazardous waste as defined under the New Mexico Hazardous Waste Management Regulations (Section 20.4.1 NMAC), or who is responsible for producing or causing the production of any fluid intended for subsurface injection under applicable New Mexico Oil Conservation Division rules (Chapter 19.15 NMAC).

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

(3) "Groundwater" means water below the land surface in a zone of saturation.

H. Definitions beginning with the letter "H".

(1) "Hazardous waste" means a hazardous waste as defined in 40 CFR 261.3.

(2) "Hazardous waste management facility ("HWM facility")" means all contiguous land, and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combination of them).

I. Definitions beginning with the letter "I".

(1) "Improved sinkhole" means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.

(2) "Indian lands" means "Indian country" as defined in Section 18 U.S.C. 1151. That section defines Indian country as: (a) All land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (b) All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State; and (c) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

(3) "Indian tribe" means any Indian tribe having a federally recognized governing body carrying out substantial governmental duties and powers over a defined area.

(4) "Injection well" means a "well" into which "fluids" are being injected.

(5) "Injection zone" means a geological "formation," group of formations, or part of a formation receiving fluids through a "well."

J. Definitions beginning with the letter "J". [RESERVED].

K. Definitions beginning with the letter "K". [RESERVED].

L. Definitions beginning with the letter "L". [RESERVED].

M. Definitions beginning with the letter "M".

(1) "Major facility" means any UIC "facility or activity" classified as such by the director, in conjunction with the EPA regional administrator.

(2) "Manifest" means the shipping document EPA Form 8700-22 (including, if necessary, EPA Form 8700-22A), originated and signed in accordance with the applicable requirements of Section 20.4.1.500 NMAC (incorporating 40 CFR Part 262).

N. Definitions beginning with the letter "N". "New Injection Well" means a well which began injection after the New Mexico Class VI Underground Injection Control program is approved and the applicable New Mexico Oil Conservation Division rules and regulations are promulgated.

O. Definitions beginning with the letter "O". "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the UIC program.

P. Definitions beginning with the letter "P".

(1) "Permit" means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of this part, parts 145, 146 and 124. Excluding Class VI UIC, "Permit" includes an area permit or any permit which has not yet been the subject of final agency action, such as a "draft permit."

(2) "Person" means an individual, association, partnership, corporation, municipality, state, federal, or tribal agency, or an agency or employee thereof.

(3) "Plugging" means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.

(4) "Point of injection" means the last accessible sampling point prior to waste fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V septic system might be the distribution box—the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself.

(5) "Project" means a group of wells in a single operation.

Q. Definitions beginning with the letter "Q". [RESERVED].

R. Definitions beginning with the letter "R".

(1) "Radioactive Waste" means any waste which contains radioactive material in concentrations which exceed those listed in Section 10 CFR 20, Appendix B, Table II, column 2.

(2) "RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94–580, as amended by Pub. L. 95–609, Pub. L. 96–510, 42 U.S.C. 6901 et seq.).

S. Definitions beginning with the letter "S".

(1) "SDWA" means the Safe Drinking Water Act (Pub. L. 93– 523, as amended; 42 U.S.C. 300f et seq.).

(2) "Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

(3) "State" means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, or an Indian tribe treated as a state.

(4) "Stratum" (plural strata) means a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.

Subsurface fluid distribution system means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

T. Definitions beginning with the letter "T".

(1) "Total dissolved solids" means total dissolved (filterable) solids as determined by the use of the method specified in Section 40 CFR Part 136.

(2) "Transferee" means the owner or operator receiving ownership or operational control of the well.

(3) **"Transferor"** means the owner or operator transferring ownership or operational control of the well.

U. **Definitions beginning with the letter "U".**

(1) **"UIC**" means the Underground Injection Control program under Part C of the Safe Drinking Water Act, including an "approved State program."

(2) **"Underground injection"** means a "well injection."

(3) **"Underground source of drinking water (USDW)"** means an aquifer or its portion:

(a) which supplies any public water system; or

(b) which contains a sufficient quantity of groundwater to supply a public water system; and

(i) currently supplies drinking water for human consumption; or

(ii) contains fewer than 10,000 mg/l total dissolved solids; and

(iii) which is not an exempted aquifer.

V. **Definitions beginning with the letter "V". [RESERVED].**

W. **Definitions beginning with the letter "W".**

(1) **"Well"** means a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.

(2) **"Well injection"** means the subsurface emplacement of fluids through a well.

X. **Definitions beginning with the letter "X". [RESERVED].**

Y. **Definitions beginning with the letter "Y". [RESERVED].**

Z. **Definitions beginning with the letter "Z". [RESERVED].**

[19.15.41.7 NMAC – N, xx/xx/2026]

19.15.41.8 **PROCEDURES FOR DECISION MAKING:**

A. **Application for a permit.**

(1) Any person who requires a permit under the UIC programs shall complete, sign, and submit to the Director an application for each permit required under Section 19.15.42.11 NMAC.

(2) The director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. See Subsection A of 19.15.42.11 NMAC.

(3) Permit applications must comply with the signature and certification requirements of Subsection B of 19.15.42.11 NMAC.

B. **Modification, revocation and reissuance, or termination of permits.**

(1) Permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Director's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in Subsection H of 19.15.42.11 NMAC or Subsection I of 19.15.42.11 NMAC and Subsection J of 19.15.42.11 NMAC. All requests shall be in writing and shall contain facts or reasons supporting the request. The permittee must furnish any relevant information within 30 days to support the director's review of potential grounds for permit modification, termination, or reissuance, or to verify compliance with permit conditions.

(2) If the director decides the request is not justified, the director shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings.

(3) If the director tentatively decides to modify or revoke and reissue a permit under Subsection H of 19.15.42.11 NMAC, the director shall prepare a draft permit under Subsection C of 19.15.41.8 NMAC incorporating the proposed changes. The director may request additional information and, in the case of a modified permit, may require the submission of an updated application. In the case of revoked and reissued permits, the director shall require the submission of a new application.

(4) In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding, the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(5) ''Minor modifications'' as defined in Subsection J of 19.15.42.11 NMAC are not subject to the requirements of this section.

(6) If the director tentatively decides to terminate a permit under Subsection I of 19.15.42.11 NMAC of this chapter, he or she shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under Subsection C of 19.15.41.8 NMAC.

C. Draft permits.

(1) Once an application is complete, the director shall prepare a draft permit or deny the application.

(2) If the director decides to prepare a draft permit, he or she shall prepare a draft permit that contains the following information:

(a) all conditions under Subsection A of 19.15.42.12 NMAC;

(b) all compliance schedules under Subsection C of 19.15.42.12 NMAC;

(c) all monitoring requirements under Subsection D of 19.15.42.12 NMAC; and

(d) UIC permits, permit conditions under Subsection B of 19.15.42.12 NMAC.

(3) Draft permits prepared by a state shall be accompanied by a fact sheet if required under Subsection D of 19.15.41.8 NMAC.

D. Fact sheet.

(1) A fact sheet shall be prepared for every draft permit for a major UIC facility or activity, and for every draft permit which the director finds is the subject of wide-spread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The director shall send this fact sheet to the applicant and, on request, to any other person.

(2) The fact sheet shall include, when applicable:

(a) brief description of the type of facility or activity which is the subject of the draft permit;

(b) the type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged;

(c) a brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions;

(d) reasons why any requested variances or alternatives to required standards do or do not appear justified;

(e) a description of the procedures for reaching a final decision on the draft permit including:

(i) the beginning and ending dates of the comment period under Subsection E of 19.15.41.8 NMAC and the address where comments will be received;

(ii) procedures for requesting a hearing and the nature of that hearing; and

(iii) any other procedures by which the public may participate in the final decision; and

(f) name and telephone number of a person to contact for additional information.

E. Public notice of permit actions and public comment period.

(1) The director shall give public notice that the following actions have occurred:

(a) a permit application has been tentatively denied under Subsection I of 19.15.42.11 NMAC;

(b) a draft permit has been prepared under Paragraph (2) of Subsection C of 19.15.41.8 NMAC;

(c) a hearing has been scheduled under Subsection G of 19.15.41.8 NMAC;

(d) an appeal has been granted.

(2) No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under Paragraph (2) of Subsection B of 19.15.41.8 NMAC. Written notice of that denial shall be given to the requester and to the permittee.

(3) Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under Paragraph (1) of this subsection shall allow at least 30 days for public comment.

(4) Public notice of a public hearing shall be given at least 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.)

(5) Public notice of activities described in Subparagraph (a) of Paragraph (1) of this subsection shall be given by the following methods:

(a) electronic mailing (email) or by mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits):

(i) the applicant;

(ii) any other agency which the Director knows has issued or is required to issue a RCRA, UIC, PSD (or other permit under the Clean Air Act), NPDES, 404, sludge management permit, or ocean dumping permit under the Marine Research Protection and Sanctuaries Act for the same facility or activity (including the EPA).

(iii) Federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), State Historic Preservation Officers, including any affected States (Indian Tribes). (For purposes of this paragraph, and in the context of the Underground Injection Control Program only, the term State includes Indian Tribes treated as States.)

(iv) Persons on a mailing list developed by (a) including those who request in writing to be on the list; (b) soliciting persons for "area lists" from participants in past permit proceedings in that area; and (c) notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as regional and state funded newsletters, environmental bulletins, or State law journals. (The director may update the mailing list from time to time by requesting written indication of continued interest from those listed. The director may delete from the list the name of any person who fails to respond to such a request.)

(v) Any unit of local government having jurisdiction over the area where the facility is proposed to be located;

(vi) each State agency having any authority under State law with respect to the construction or operation of such facility.

(b) For Class VI injection well UIC permits, mailing or emailing a notice to state and local oil and gas regulatory agencies and State agencies regulating mineral exploration and recovery, the Director of the Public Water Supply Supervision program in the state, the BLM, the office of the state engineer, the state land office, all tribal authorities, and all agencies that oversee injection wells in the State.

(c) For major permits, publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity.

(d) When the program is being administered by an approved state, in a manner constituting legal notice to the public under State law.

(e) Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other form or medium to elicit public participation.

(6) All public notices issued under this part shall contain the following minimum information:

(a) name and address of the Division of EMNRD office processing the permit action for which notice is being given;

(b) name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

(c) a brief description of the business conducted at the facility or activity described in the permit application or the draft permit;

(d) name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, fact sheet, and the application;

(e) a brief description of the comment procedures required by Subsection F of 19.15.41.8 NMAC and Subsection G of 19.15.41.8 NMAC and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision; and

(f) Any additional information considered necessary or proper.

(7) In addition to the general public notice described in Paragraph (5) of this subsection, the public notice of a hearing under Subsection G of 19.15.41.8 NMAC shall contain the following information:

(a) reference to the date of previous public notices relating to the permit;

(b) date, time, and place of the hearing; and

(c) a brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

(8) In addition to the general public notice described in Paragraph (5) of this subsection, all persons identified in Subparagraph (a) of Paragraph (5) of this subsection shall be mailed a copy of the fact sheet, the permit application (if any), inclusive of the third-party verification of the modeling ensemble, and the draft permit (if any).

F. Public comments and requests for public hearings. During the public comment period provided under Subsection E of 19.15.41.8 NMAC, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in Subsection I of 19.15.41.8 NMAC.

G. Public hearings.

(1) The director shall hold a public hearing whenever he or she finds, on the basis of requests, a significant degree of public interest in a draft permit(s).

(2) The director may also hold a public hearing at his or her discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision.

(3) Public notice of the hearing shall be given as specified in Subsection E of 19.15.41.8 NMAC.

(4) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under Subsection E of 19.15.41.8 NMAC shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.

(5) A tape recording or written transcript of the hearing shall be made available to the public.

H. Issuance and effective date of permit.

(1) After the close of the public comment period under Subsection E of 19.15.41.8 NMAC on a draft permit, the director shall issue a final permit decision. The director shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice shall include reference to the procedures for appealing a decision on a UIC permit under Section 40 CFR 124.19. For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke, and reissue, or terminate a permit.

(2) A permit to construct a Class VI injection well issued by the oil conservation division (OCD) shall be valid for a period of two years from the date of issuance. If drilling operations have not commenced within the two-year period, the permit shall automatically terminate without further notice. The owner or operator may request an extension by submitting a written request to the OCD engineering bureau at least 30 days prior to the expiration of the initial two-year period. Such a request must demonstrate good cause for the delay and include a revised timeline for drilling, a detailed explanation of the circumstances necessitating the extension, and any relevant supporting documentation. The OCD may approve the extension if it determines that the delay is justified and consistent with the objectives of the Class VI program.

I. Response to comments.

(1) At the time that a final permit is issued, the Director shall issue a response to comments. This response shall:

(a) specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

(b) briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.

(2) The response to comments shall be available to the public.

[19.15.41.8 NMAC – N, xx/xx/2026]

History of 19.15.41 NMAC: [RESERVED]

EXHIBIT 26-B

CONSERVATION GROUPS' POST-HEARING PROPOSED AMENDMENTS TO 19.15.42 NMAC

TITLE 19 NATURAL RESOURCES AND WILDLIFE
CHAPTER 15 OIL AND GAS
PART 42 UNDERGROUND INJECTION CONTROL PROGRAM

19.15.42.1 ISSUING AGENCY: Oil Conservation Commission.
[19.15.42.1 NMAC – N, XX/XX/XXXX]

19.15.42.2 SCOPE: 19.15.42 NMAC applies to persons constructing, operating or closing a sequestration facility or engaged in the injection of carbon dioxide for the purposes of geologic sequestration under the Geologic Carbon Dioxide Storage Stewardship Act.
[19.15.42.2 NMAC – N, XX/XX/XXXX]

19.15.42.3 STATUTORY AUTHORITY: 19.15.42 NMAC is adopted pursuant to the Geologic Carbon Dioxide Storage Stewardship Act, Sections 74-14-1 through 74-14-7 and the Oil and Gas Act, Section 70-2-6, 70-2-11, and Paragraph (15) of Subsection B of Section 70-2-12 NMSA 1978.
[19.15.42.3 NMAC – N, XX/XX/XXXX]

19.15.42.4 DURATION: Permanent.
[19.15.42.4 NMAC – N, XX/XX/XXXX]

19.15.42.5 EFFECTIVE DATE: [**RESERVED**].
[19.15.42.5 NMAC – N, XX/XX/XXXX]

19.15.42.6 OBJECTIVE: To regulate the permitting, construction, operation and closure of sequestration facilities, the injection of carbon dioxide for the purposes of geologic sequestration and to maintain primary enforcement authority for Safe Drinking Water Act (42 U.S.C. 300f et seq.) Underground Injection Control (UIC) program for UIC Class VI wells.
[19.15.42.6 NMAC – N, XX/XX/XXXX]

19.15.42.7 DEFINITIONS: The following definitions apply to this subpart for underground injection control programs:

A. Definitions beginning with the letter "A".

(1) "Application" means a submission by an individual or entity, using the prescribed forms, to request authorization for underground injection activities, inclusive of any subsequent amendments, updates, or supplements to the original submission.

(2) "Aquifer" means a geological "formation," group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

(3) "Area of review" means the area surrounding an injection well described according to the criteria set forth in Subsection E of 19.15.43.9 NMAC ~~§ 40 CFR 146.06 or in the case of an area permit, the project area plus a circumscribing area the width of which is either ¼ of a mile or a number calculated according to the criteria set forth in Section 40 CFR 146.06~~.

B. Definitions beginning with the letter "B". [RESERVED].

C. Definitions beginning with the letter "C".

(1) "Cesspool" means a "drywell" that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom and/or perforated sides.

(2) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

D. Definitions beginning with the letter "D".

(1) "Director" means the director of the New Mexico energy, minerals and natural resources department, oil conservation division.

(2) "Draft permit" means a document prepared under Subsection C of 19.15.41.8 NMAC indicating the director's decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in Subsection B of 19.15.41.8 NMAC are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in Subsection B of 19.15.41.8 NMAC is not a "draft permit."

(3) "Drilling mud" means a heavy suspension used in drilling an "injection well," introduced down the drill pipe and through the drill bit.

(4) "Drywell" means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.

E. Definitions beginning with the letter "E".

(1) "Eligible indian tribe" is a tribe that meets the statutory requirements established at 42 U.S.C. 300j-11(b)(1).

(2) "Emergency permit" means a UIC "permit" issued in accordance with Section 40 CFR 144.34.

(3) "Environmental protection agency ("EPA")" means the United States Environmental Protection Agency.

(4) "Exempted aquifer" means an "aquifer" or its portion that meets the criteria in the definition of "underground source of drinking water" but which has been exempted according to the procedures in Subsection D of 19.15.42.8 NMAC.

(5) "Existing injection well" means an "injection well" other than a "new injection well."

F. Definitions beginning with the letter "F".

(1) "Facility or activity" means any UIC "injection well," or any other facility or activity that is subject to regulation under these regulations.

(2) "Fluid" means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

(3) "Formation" means a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

(4) "Formation fluid" means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids, such as "drilling mud."

G. Definitions beginning with the letter "G".

(1) "Generator" means any individual or entity, identified by a specific site location, whose actions or operations result in the creation of hazardous waste as defined under the New Mexico Hazardous Waste Management Regulations (Section 20.4.1 NMAC), or who is responsible for producing or causing the production of any fluid intended for subsurface injection under applicable New Mexico Oil Conservation Division rules (Section 19.15 NMAC).

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

(3) "Groundwater" means water below the land surface in a zone of saturation.

H. Definitions beginning with the letter "H".

(1) "Hazardous waste" means a hazardous waste as defined in Section 40 CFR 261.3.

(2) "Hazardous waste management facility ("HWM facility")" means all contiguous land, and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combination of them).

I. Definitions beginning with the letter "I".

(1) "Improved sinkhole" means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.

(2) "Indian lands" means "Indian country" as defined in Section 18 U.S.C. 1151. That section defines Indian country as: (a) All land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (b) All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State; and (c) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

(3) "Indian tribe" means any Indian tribe having a federally recognized governing body carrying out substantial governmental duties and powers over a defined area.

(4) "Injection well" means a "well" into which "fluids" are being injected.

(5) "Injection zone" means a geological "formation," group of formations, or part of a formation receiving fluids through a "well."

J. Definitions beginning with the letter "J". [RESERVED].

K. Definitions beginning with the letter "K." [RESERVED].

L. Definitions beginning with the letter "L". [RESERVED].

M. Definitions beginning with the letter "M".

(1) "Major facility" means any UIC "facility or activity" classified as such by the director, in conjunction with the EPA regional administrator.

(2) "Manifest" means the shipping document EPA Form 8700-22 (including, if necessary, EPA Form 8700-22A), originated and signed in accordance with the applicable requirements of Section 20.4.1.500 NMAC (incorporating Section 40 CFR Part 2362).

N. Definitions beginning with the letter "N". "**New injection well"** means a well which began injection after the New Mexico Class VI Underground Injection Control program is approved and the applicable New Mexico Oil Conservation Division rules and regulations are promulgated.

O. Definitions beginning with the letter "O". "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the UIC program.

P. Definitions beginning with the letter "P".

(1) "Permit" means an authorization, license, or equivalent control document issued by the EPA or an approved State to implement the requirements of Sections 19.15.41 NMAC, 19.15.42 NMAC and 19.15.43 NMAC. Excluding Class VI UIC, "permit" includes an area permit or any permit which has not yet been the subject of final agency action, such as a "draft permit."

(2) "Person" means an individual, association, partnership, corporation, municipality, state, federal, or tribal agency, or an agency or employee thereof.

(3) "Plugging" means the act or process of stopping the flow of water, oil, or gas into or out of a formation through a borehole or well penetrating that formation.

(4) "Point of injection" means the last accessible sampling point prior to waste fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V septic system might be the distribution box—the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself.

(5) "Project" means a group of wells in a single operation.

Q. Definitions beginning with the letter "Q". [RESERVED].

R. Definitions beginning with the letter "R".

(1) "Radioactive waste" means any waste which contains radioactive material in concentrations which exceed those listed in Section 10 CFR 20, Appendix B, Table II, column 2.

(2) "RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94–580, as amended by Pub. L. 95–609, Pub. L. 96–510, 42 U.S.C. 6901 et seq.).

S. Definitions beginning with the letter "S".

(1) "SDWA" means the Safe Drinking Water Act (Pub. L. 93– 523, as amended; 42 U.S.C. 300f et seq.).

(2) "Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

(3) "State" means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, or an Indian Tribe treated as a State.

(4) "Stratum" (plural strata) means a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.

(5) "Subsurface fluid distribution system" means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

T. Definitions beginning with the letter "T".

(1) "Total dissolved solids" means total dissolved (filterable) solids as determined by the use of the method specified in 40 CFR Part 136.

(2) "Transferee" means the owner or operator receiving ownership and/or operational control of the well.

(3) "Transferor" means the owner or operator transferring ownership and/or operational control of the well.

U. Definitions beginning with the letter "U".

(1) **"UIC"** means the Underground Injection Control program under Part C of the Safe Drinking Water Act, including an "approved State program."

(2) **"Underground injection"** means a "well injection."

(3) **"Underground source of drinking water (USDW)"** means an aquifer or its portion:

(a) Which supplies any public water system; or

(b) Which contains a sufficient quantity of groundwater to supply a public water system; and

(i) Currently supplies drinking water for human consumption; or

(ii) Contains fewer than 10,000 mg/l total dissolved solids; and

(iii) Which is not an exempted aquifer.

V. Definitions beginning with the letter "V". [RESERVED].

W. Definitions beginning with the letter "W".

(1) **"Well"** means a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.

(2) **"Well injection"** means the subsurface emplacement of fluids through a well.

X. Definitions beginning with the letter "X". [RESERVED].

Y. Definitions beginning with the letter "Y". [RESERVED].

Z. Definitions beginning with the letter "Z". [RESERVED].

[19.15.42.7 NMAC – N, XX/XX/XXXX]

19.15.42.8 GENERAL PROVISIONS:

A. General provisions for underground injection control programs.

(1) Note that Section 19.15.43.9 NMAC sets forth requirements for owners or operators of Class VI injection wells.

(2) Such aquifers are those which would otherwise qualify as "underground sources of drinking water" to be protected, but which have no real potential to be used as drinking water sources. Therefore, they are not USDWs. No aquifer is an exempted aquifer until it has been affirmatively designated under the procedures at Subsection D of 19.15.42.8 NMAC. Aquifers which do not fit the definition of "underground source of drinking water" are not "exempted aquifers." They are simply not subject to the special protection afforded USDWs. During initial Class VI program development, the director shall not expand the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for Class VI injection wells and EPA shall not approve a program that applies for aquifer exemption expansions of Class II-Class VI exemptions as part of the program description. All Class II to Class VI aquifer exemption expansions previously issued by EPA must be incorporated into the Class VI program descriptions pursuant to requirements at Section 40 CFR 145.23(f)(9).

B. Confidentiality of information.

(1) Any information submitted pursuant to these regulations may be claimed as confidential by the submitter in accordance with applicable provisions of state law. A claim of confidentiality must be made at the time of submission, either in the manner prescribed by the applicable application form or instructions, or by clearly marking each page containing such information with the phrase "confidential business information." Failure to assert a confidentiality claim at the time of submission may result in the division making the information available to the public without further notice. Information properly designated as confidential shall be handled in accordance with the procedures set forth in applicable state law and any incorporated federal confidentiality provisions, including but not limited to Section 40 CFR Part 2.

(2) Claims of confidentiality for the following information will be denied:

(a) The name and address of any permit applicant or permittee.

(b) Information which deals with the existence, absence, or level of contaminants in drinking water or zones other than the approved injection zone.

(c) Information that is already available for public inspection.

C. Classification of wells.

(1) *Class VI* Injection wells are classified as follows: Wells that are not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW or wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at Subsection P of 19.15.43.9 NMAC or wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced

oil recovery or enhanced gas recovery aquifer exemption pursuant to Subsection A of 19.15.43.8 NMAC and Section 40 CFR 144.7(d).

D. Identification of underground sources of drinking water and exempted aquifers.

(1) The director may identify (by narrative description, illustrations, maps, or other means) and shall protect as underground sources of drinking water, all aquifers and parts of aquifers which meet the definition of ''underground source of drinking water'' in Section 19.15.42.7 NMAC, except to the extent there is an applicable aquifer exemption under Paragraph (2) of this section or an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration under Paragraph (4) of this section. Other than EPA approved aquifer exemption expansions that meet the criteria set forth in Subsection A of 19.15.43.8 NMAC, new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the Director, it is an underground source of drinking water if it meets the definition in Section 19.15.42.7 NMAC.

(2) The director may identify (by narrative description, illustrations, maps, or other means) and describe in geographic or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the director proposes to designate as exempted aquifers using the criteria in Subsection A of 19.15.43.8 NMAC.

(3) No designation of an exempted aquifer submitted as part of a UIC program shall be final until approved by the administrator as part of a UIC program. No designation of an expansion to the areal extent of a Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration shall be final until approved by the administrator as a revision to the applicable Federal UIC program under Part 147 or as a substantial revision of an approved State UIC program in accordance with Section 40 CFR 145.32 and Section 19.15.42.13 NMAC.

(4) Expansion to the areal extent of existing Class II aquifer exemptions for Class VI wells. Owners or operators of Class II enhanced oil recovery or enhanced gas recovery wells may request that the director approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil recovery or enhanced gas recovery well for the exclusive purpose of Class VI injection for geologic sequestration. Such requests must be treated as a substantial revision to the state's UIC program and will not be final until approved by EPA.

(a) The owner or operator of a Class II enhanced oil recovery or enhanced gas recovery well that requests an expansion of the areal extent of an existing aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration must define (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) that are clear and definite, all aquifers or parts thereof that are requested to be designated as exempted using the criteria in Subsection A of 19.15.43.8 NMAC.

(b) In evaluating a request to expand the areal extent of an aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of Class VI injection, the director must determine that the request meets the criteria for exemptions. In making the determination, the director shall consider:

(i) current and potential future use of the USDWs to be exempted as drinking water resources;

(ii) the predicted extent of the injected carbon dioxide plume, and any mobilized fluids that may result in degradation of water quality, over the lifetime of the GS project, as informed by computational modeling performed pursuant to Section 40 CFR 146.84(c)(1), in order to ensure that the proposed injection operation will not at any time endanger USDWs including non-exempted portions of the injection formation;

(iii) whether the areal extent of the expanded aquifer exemption is of sufficient size to account for any possible revisions to the computational model during reevaluation of the area of review.

(c) Any information submitted to support a waiver request made by the owner or operator, if appropriate.

E. Noncompliance and program reporting by the director. The director shall submit any reports required under this section to the regional administrator.

(1) Quarterly reports. The director shall submit quarterly narrative reports for major facilities as follows:

(a) Provide an alphabetized list of permittees. When two or more permittees have the same name, the lowest permit number shall be entered first.

(b) For each entry on the list, include the following information in the following order:

(i) Name, location, and permit number of the noncomplying permittees.

(ii) A brief description and date of each instance of noncompliance for that permittee. Instances of noncompliance may include one or more of the kinds set forth in Paragraph (2) of this section. When a permittee has noncompliance of more than one kind, combine the information into a single entry for each such permittee.

(iii) The date(s) and a brief description of the action(s) taken by the Director to ensure compliance.

(iv) Status of the instance(s) of noncompliance with the date of the review of the status or the date of resolution; and

(v) Any details which tend to explain or mitigate the instance(s) of noncompliance.

(2) Instances of noncompliance to be reported. Any instances of noncompliance within the following categories shall be reported in successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.

(a) Failure to complete construction elements. When the permittee has failed to complete, by the date specified in the permit, an element of a compliance schedule involving either planning for construction or a construction step (for example, begin construction, attain operation level); and the permittee has not returned to compliance by accomplishing the required elements of the schedule within 30 days from the date a compliance schedule report is due under the permit.

(b) Modifications to schedules of compliance. When a schedule of compliance in the permit has been modified under Subsection H of 19.15.42.11 NMAC or Subsection J of 19.15.42.11 NMAC because of the permittee's noncompliance.

(c) Failure to complete or provide compliance schedule or monitoring reports. When the permittee has failed to complete or provide a report required in a permit compliance schedule (for example, progress report or notice of noncompliance or compliance) or a monitoring report; and the permittee has not submitted the complete report within 30 days from the date it is due under the permit for compliance schedules, or from the date specified in the permit for monitoring reports.

(d) Deficient reports. When the required reports provided by the permittee are so deficient as to cause misunderstanding by the director and thus impede the review of the status of compliance.

(e) Noncompliance with other permit requirements. Noncompliance shall be reported in the following circumstances:

(i) Whenever the permittee has violated a permit requirement (other than reported under Subparagraph (a) or (b) of paragraph (2) of this section), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the permit; or

(ii) When the director determines that a pattern of noncompliance exists for a major facility permittee over the most recent four consecutive reporting periods. This pattern includes any violation of the same requirement in two consecutive reporting periods, and any violation of one or more requirements in each of four consecutive reporting periods; or

(iii) When the director determines significant permit noncompliance or other significant event has occurred, such as a migration of fluids into a USDW.

(f) All other. Statistical information shall be reported quarterly on all other instances of noncompliance by major facilities with permit requirements not otherwise reported under Paragraph (2) of this section.

(3) Annual reports.

(a) Annual noncompliance report. Statistical reports shall be submitted by the Director on nonmajor UIC permittees indicating the total number reviewed, the number of noncomplying nonmajor permittees, the number of enforcement actions, and number of permit modifications extending compliance deadlines. The statistical information shall be organized to follow the types of noncompliance listed in Paragraph (2) of this section.

(b) In addition to the annual noncompliance report, the state director shall submit each year a program report to the administrator (in a manner and form prescribed by the administrator) consisting of the following:

(i) A detailed description of the State's implementation of its program;

(ii) Suggested changes, if any to the program description (see Section 40 CFR 145.23(f)) which are necessary to reflect more accurately the State's progress in issuing permits;

(iii) An updated inventory of active underground injection operations in the State.

(c) For all annual reports. The period for annual reports shall be for the calendar year ending December 31, with reports completed and available to the public no more than 60 days later.

(4) In addition to complying with the requirements of Subparagraph (b) of Paragraph (3) this section, the director shall provide the administrator, on February 28 and August 31 of each of the first two years of program operation, the information required in Sections 40 CFR 146.13, 146.23, and 146.33.

(5) All Class VI program reports shall be consistent with reporting requirements set forth in Subsection L of 19.15.43.9 NMAC.

(6) Schedule. For all quarterly reports. On the last working day of May, August, November, and February, the state director shall submit to the regional administrator information concerning noncompliance with permit requirements by major facilities in the state in accordance with the following schedule. The regional administrator shall prepare and submit information for EPA-issued permits to EPA Headquarters in accordance with the same schedule. Dates for completion of reports are as follows: January, February, and March: 1, May 31, April, May, and June: 1 Aug. 31, July, August, and September: 1, Nov. 30, October, November, and December: 1, Feb. 28. Reports must be made available to the public for inspection and copying on this date.

[19.15.42.7 NMAC – N, XX/XX/XXXX]

19.15.42.8 GENERAL PROGRAM REQUIREMENTS:

A. Prohibition of unauthorized injection. Any underground injection, except into a well authorized by rule or except as authorized by permit issued under the UIC program, is prohibited. The construction of any well required to have a permit is prohibited until the permit has been issued.

B. Prohibition of movement of fluid into underground sources of drinking water.

(1) No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under Section 40 CFR 141 or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this paragraph are met.

(2) For Class I, II, III, and VI wells, if any water quality monitoring of an underground source of drinking water indicates the movement of any contaminant into the underground source of drinking water, except as authorized under Section 19.15.43 NMAC, the director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit in accordance with Subsection H of 19.15.42.11 NMAC, or the permit may be terminated under Subsection I of 19.15.42.11 NMAC if cause exists, or appropriate enforcement action may be taken if the permit has been violated. In the case of wells authorized by rule, see Sections 40 CFR 144.21 through 144.24 and Subsection A of 19.15.42.10 NMAC.

(3) Notwithstanding any other provision of this section, the director may take emergency action upon receipt of information that a contaminant which is present in or likely to enter a public water system or underground source of drinking water may present an imminent and substantial endangerment to the health of persons.

C. Prohibition of non-experimental Class V wells for geologic sequestration. The construction, operation or maintenance of any non-experimental Class V geologic sequestration well is prohibited.

D. Records. The director may require, by written notice on a selective well-by-well basis, an owner or operator of an injection well to establish and maintain records, make reports, conduct monitoring, and provide other information as is deemed necessary to determine whether the owner or operator has acted or is acting in compliance with Part C of the SDWA or its implementing regulations.

E. Requirements for Class VI wells. Owners or operators of Class VI wells must obtain a permit. Class VI wells cannot be authorized by rule to inject carbon dioxide.

F. Transitioning from Class II to Class VI.

(1) Owners or operators that are injecting carbon dioxide for the primary purpose of long-term storage into an oil and gas reservoir or for which there is an increased risk of USDWs compared to Class II operations must apply for and obtain a Class VI geologic sequestration permit ~~when there is an increased risk to~~

~~USDWs compared to Class II operations~~. In determining if there is an increased risk to USDWs, the owner or operator must consider the factors specified within this section.

(2) The director shall determine when there is an increased risk to USDWs compared to Class II operations and a Class VI permit is required. In order to make this determination the Director must consider the following:

(a) increase in reservoir pressure within the injection zone(s);
(b) increase in carbon dioxide injection rates;
(c) decrease in reservoir production rates;
(d) distance between the injection zone(s) and USDWs;
(e) suitability of the Class II area of review delineation;
(f) quality of abandoned well plugs within the area of review;
(g) the owner's or operator's plan for recovery of carbon dioxide at the cessation of injection;
(h) the source and properties of injected carbon dioxide; ~~and~~
(i) integrity of the confining zone; and
~~(i)~~**(j)** any additional site-specific factors as determined by the director.

19.15.42.9 AUTHORIZATION OF UNDERGROUND INJECTION BY RULE:

Existing Class II enhanced recovery and hydrocarbon storage wells. Injection of carbon dioxide through Class VI wells shall not be authorized by rule. A permit must be secured by the owner or operator prior to conducting injection operations under this well classification. For any existing Class II enhanced recovery or hydrocarbon storage well that is authorized by rule, such authorization shall terminate upon the effective date of a Class VI permit issued in accordance with Subsection F of 19.15.42.9 NMAC upon approved plugging and abandonment of the well, or at the time the well is converted to another use.
[19.15.42.9 NMAC – N, XX/XX/XXXX]

19.15.42.10 AUTHORIZATION BY PERMIT:

A. Application for a permit; authorization by permit.

(1) No person shall conduct any underground injection activity unless authorized by a permit issued pursuant to these regulations. Effective on the date these regulations become enforceable, the construction or operation of any well for which a permit is required under this part is strictly prohibited unless and until such permit has been duly issued by the director.

(2) **Who applies?** When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.

(3) **Time to apply.** Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the director in accordance with the UIC program as follows: For new injection wells, except new wells in projects authorized under Section 40 CFR 144.21(d) or authorized by an existing area permit under Section 40 CFR 144.33(c), a reasonable time before construction is expected to begin.

(4) **Completeness.** The director shall not issue a permit before receiving a complete application for a permit. An application for a permit is complete when the director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.

(5) **Information requirements.** All applicants for Class VI permits shall provide the following information to the director, using the application form provided by the director.

(a) The activities conducted by the applicant which require it to obtain permits under RCRA, UIC, the National Pollution Discharge Elimination System (NPDES) program under the Clean Water Act, or the Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(b) Name, mailing address, and location of the facility for which the application is submitted.

(c) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(d) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(e) Whether the facility is located on Indian lands.

(f) A listing of all permits or construction approvals received or applied for under any of the following programs:

(i) Hazardous Waste Management program under RCRA.

(ii) UIC program under SDWA.

(iii) NPDES program under CWA

(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(v) Nonattainment program under the Clean Air Act.

(vi) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(vii) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

(viii) Dredge and fill permits under section 404 of CWA.

(ix) Other relevant environmental permits, including State permits.

(g) A brief description of the nature of the business.

(h) The names and addresses of all property owners within the area of review and ¼ mile of the Class VI well or project.

B. Signatories to permit applications and reports.

(1) Applications. All permit applications shall be signed as follows:

(a) For a corporation, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

(ii) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(b) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.

(c) For a municipality, state, federal, or other public agency, by either a principal executive officer or ranking elected official.

(d) The chief executive officer of the agency, or

(e) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the division.

(2) Reports. All reports required by permits, other information requested by the director, and all permit applications submitted for Class II wells under Subsection A of 19.15.42.11 NMAC shall be signed by a person described in Paragraph (1) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(a) The authorization is made in writing by a person described in Paragraph (1) of this section;

(b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

(c) The written authorization is submitted to the director.

(3) Changes to authorization. If an authorization under Paragraph (1) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Paragraph (1) of this section must be submitted to the director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(4) Certification. Any person signing a document under Paragraph (1) or (2) of this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the

best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

C. Area permits. The director may issue a permit on an area basis, rather than for each well individually, provided that the permit is for injection wells other than Class VI wells. Area permits are expressly prohibited for Class VI injection wells.

D. Effect of a permit.

(1) Compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Part C of the SDWA. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in Subsections H and I of 19.15.42.11 NMAC.

(2) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(3) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

E. Duration of permits.

(1) Permits for Class VI UIC wells shall remain in effect for the duration of the facility's operational life and the post injection site care period. The director shall conduct a permit review no less frequently than once every five years to assess whether the permit requires modification, revocation and reissuance, termination, or the incorporation of minor modifications, consistent with applicable permitting standards and procedures.

(2) The term of a permit shall not be extended by modification beyond the maximum duration specified in Subsection F of 19.15.42.11 NMAC.

(3) The director may issue any permit for a duration that is less than the full allowable term under this section.

F. Continuation of expiring permits.

(1) Continuation of permits. The conditions of an expired permit may continue in force until the effective date of a new permit if the permittee has submitted a timely and a complete application for a new permit or, if the Director, 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 (for example, when issuance is impracticable due to time or resource constraints).

(2) Effect. Permits continued under this section remain fully effective and enforceable.

(3) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit the Director may choose to do any or all of the following:

(a) Initiate enforcement action based upon the permit which has been continued;

(b) Issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(c) Issue a new permit under this chapter with appropriate conditions; or

(d) Take other actions authorized by these regulations.

G. Transfer of permits.

(1) Transfers by modification. Except as provided in Paragraph (2) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under Subsection H of 19.15.42.11 NMAC), or a minor modification made (under Subsection J of 19.15.42.11 NMAC), to identify the new permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act.

(2) Automatic transfers of Class VI permits are prohibited.

H. Modification or revocation and reissuance of permits. When the director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see Subsection A of 19.15.42.12 NMAC of this chapter), receives a request for modification or revocation and reissuance under Subsection B of 19.15.41.8 NMAC, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in Paragraphs (1) and (2) of this section for modification or revocation and reissuance or both exist. If cause exists, the director may modify or revoke and reissue the permit accordingly, subject to the limitations of Paragraph (3) of this section and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. See Subsection B of 19.15.41.8 NMAC. If cause does not exist under this section or Subsection J of 19.15.42.11 NMAC, the director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria

in Subsection J of 19.15.42.11 NMAC for ''minor modifications'' the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared (Subsection C of 19.15.41.8 NMAC).

(1) Causes for Modification. The following are causes for modification and may be causes for revocation and reissuance of permits:

(a) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(b) Information. The director has received information. Permits other than for Class II and III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits (Section 40 CFR 144.33), this cause shall include any information indicating that cumulative effects on the environment are unacceptable.

(c) New regulations. The standards or regulations on which the permit was based have been changed by promulgation of new or amended standards or regulations or by judicial decision after the permit was issued. Permits for Class VI wells may be modified during their terms only as follows:

(i) the permit condition requested to be modified was based on a promulgated regulation or guideline;

(ii) there has been a revision, withdrawal, or modification of that portion of the rule or regulation on which the permit condition was based, and

(iii) a permittee requests modification within 90 days after New Mexico Register notice of the action on which the request is based.

(d) For judicial decisions, a court of competent jurisdiction has remanded and stayed oil conservation division regulations if the remand and stay concern that portion of the regulations on which the permit condition was based and a request is filed by the permittee in accordance with Subsection B of 19.15.41.8 NMAC within 90 days of judicial remand.

(e) Compliance schedules. The director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(f) Basis for modification of Class VI permits. Additionally, for Class VI wells, whenever the Director determines that permit changes are necessary based on:

(i) Area of review reevaluations under Subsection E of 19.15.43.9 NMAC;

(ii) Any amendments to the testing and monitoring plan under Subsection K of 19.15.43.9 NMAC;

(iii) Any amendments to the injection well plugging plan under Subsection M of 19.15.43.9 NMAC;

(iv) Any amendments to the post-injection site care and site closure plan under Subsection N of 19.15.43.9 NMAC;

(v) Any amendments to the emergency and remedial response plan under Subsection O of 19.15.43.9 NMAC; or

(vi) A review of monitoring and testing results conducted in accordance with permit requirements.

(2) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

(a) Cause exists for termination under Subsection I of 19.15.42.11 NMAC, and the director determines that modification or revocation and reissuance is appropriate.

(b) The director has received notification of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer (Subsection G(2) of 19.15.42.11 NMAC) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

(c) A determination that the waste being injected is a hazardous waste as defined in Section 40 CFR 261.3 either because the definition has been revised, or because a previous determination has been changed.

(3) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

I. Termination of permits.

(1) The director may terminate a permit during its term, or deny a permit renewal application for the following causes:

(a) noncompliance by the permittee with any condition of the permit;

(b) the permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(c) a determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

(2) The director shall follow the applicable procedures in Subsection C of 19.15.41.8 NMAC in terminating any permit under this section.

J. Minor modifications of permits. Upon the consent of the permittee, the director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of Subsection B of 19.15.41.8 NMAC. Any permit modification not processed as a minor modification under this section must be made for cause and with Subsections C and E of 19.15.41.8 NMAC draft permit and public notice as required in Subsection H of 19.15.42.11 NMAC. Minor modifications may only:

(1) correct typographical errors;

(2) require more frequent monitoring or reporting by the permittee;

(3) change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

(4) Allow for a change in ownership or operational control of a facility where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the director;

(5) Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the director, would not interfere with the operation of the facility or its ability to meet conditions described in the permit and would not change its classification;

(6) Change construction requirements approved by the director pursuant to Subsection B of 19.15.42.12 NMAC (establishing UIC permit conditions), provided that any such alteration shall comply with the requirements of this part and Section 19.15.43 NMAC;

(7) Amend a Class VI injection well testing and monitoring plan, plugging plan, post-injection site care and site closure plan, or emergency and remedial response plan where the modifications merely clarify or correct the plan, as determined by the Director.

[19.15.42.10 NMAC – N, XX/XX/XXXX]

19.15.42.11 PERMIT CONDITIONS:

A. Conditions applicable to all permits. The following conditions apply to all UIC permits. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations.

(1) Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(2) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(3) Duty to halt or reduce activity. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

(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 backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(6) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(7) Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

(8) Duty to provide information. The permittee shall furnish to the Director, within 30 days, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(9) Inspection and entry. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

(10) Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including the following:

(i) Calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time; and

(ii) The nature and composition of all injected fluids until 3 years after the completion of any plugging and abandonment procedures specified under Subsection B of 19.15.42.12 NMAC, or under 40 CFR 146, Subpart G as appropriate. The director may require the owner or operator to deliver the records to the director at the conclusion of the retention period.

(c) Records of monitoring information shall include:

(i) the date, exact place, and time of sampling or measurements;

(ii) the individual(s) who performed the sampling or measurements;

(iii) the date(s) analyses were performed;

(iv) the individual(s) who performed the analyses;

(v) the analytical techniques or methods used; and

(vi) the results of such analyses.

(d) Owners or operators of Class VI wells shall retain records as specified in Section 19.15.43.9 NMAC, including Subsection E of 19.15.43.9 NMAC, Subsection L of 19.15.43.9 NMAC, and Subsection M of 19.15.43.9 NMAC.

(11) Signatory requirement. All applications, reports, or information submitted to the Director shall be signed and certified (See Subsection B of 19.15.42.11 NMAC).

(12) Reporting requirements.

(a) Planned changes. The permittee shall give notice to the director as soon as possible of any planned physical alterations or additions to the permitted facility.

(b) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act (See Subsection G of 19.15.42.11 NMAC); in some cases, modification or revocation and reissuance is mandatory.

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this section.

(e) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each schedule date.

(f) **24-hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment, including:

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

(ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

(g) Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(h) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under Subparagraphs (a) (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Subparagraph (f) Paragraph (12) of this section.

(i) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the director, it shall promptly submit such facts or information.

(13) **Requirements prior to commencing injection.** Except for all new wells authorized by an area permit under Section 40 CFR 144.33(c), a new injection well may not commence injection until:

(a) construction is complete; and

(b) the permittee has submitted notice of completion of construction to the director; and

(c) the director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or

(d) the permittee has not received notice from the director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Subparagraph (b) of Paragraph (13) of this section, in which case prior inspection or review is waived and the permittee may commence injection. The director shall include in his notice a reasonable time period in which he shall inspect the well.

(14) The permittee shall notify the director at such times as the permit requires before conversion or abandonment of the well or in the case of area permits before closure of the project.

(15) A Class VI permit shall include conditions which meet the requirements set forth in Subsection M of 19.15.43.9 NMAC. Where the plan meets the requirements of Subsection M of 19.15.43.9 NMAC, the director shall incorporate it into the permit as a permit condition. For purposes of this paragraph, temporary or intermittent cessation of injection operations is not abandonment.

(16) **Duty to establish and maintain mechanical integrity.**

(a) The owner or operator of a Class VI well permitted under this part shall establish mechanical integrity prior to commencing injection or on a schedule determined by the director. The owner or operator of Class VI wells must maintain mechanical integrity as defined in Subsection J of 19.15.43.9 NMAC.

(b) When the director determines that a Class VI well lacks mechanical integrity pursuant to Section 40 CFR 146.89 or Subsection J of 19.15.43.9 NMAC for Class VI, the director shall give written notice of his/her determination to the owner or operator. Unless the director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the director's determination. The director may allow plugging of the well pursuant to the requirements of Section 40 CFR 146.92 or require the permittee to perform such additional construction, operation, monitoring, reporting and corrective action as is necessary to prevent the movement of fluid into or between USDWs caused by the lack of mechanical integrity. The owner or operator may resume injection upon written notification from the director that the owner or operator has demonstrated mechanical integrity pursuant to Section 40 CFR 146.89.

(c) The director may allow the owner or operator of a well which lacks mechanical integrity pursuant to Section 40 CFR 146.8(a)(1) to continue or resume injection, if the owner or operator has made a satisfactory demonstration that there is no movement of fluid into or between USDWs.

B. **Establishing permit conditions.**

(1) In addition to conditions required in Subsection A of 19.15.42.12 NMAC, the director shall establish conditions, as required on a case-by-case basis under § 19.15.42.11.E NMAC (duration of permits), Subsection C of 19.15.42.12 NMAC (schedules of compliance), Subsection D of 19.15.42.12 NMAC (monitoring).

(2) Permits for owners or operators of Class VI injection wells shall include conditions meeting the requirements of 19.15.43.9 NMAC. Permits for other wells shall contain the following requirements, when applicable:

(a) **Construction requirements as set forth in 19.15.43 NMAC.** Existing wells shall achieve compliance with such requirements according to a compliance schedule established as a permit condition. The owner or operator of a proposed new injection well shall submit plans for testing, drilling, and construction as part of the permit application. Except as authorized by an area permit, no construction may commence until a permit has been issued containing construction requirements (see Subsection A of 19.15.42.9 NMAC). New wells shall be in compliance with these requirements prior to commencing injection operations. Changes in construction plans during construction may be approved by the administrator as minor modifications (Subsection J of 19.15.42.11 NMAC). No such changes may be physically incorporated into construction of the well prior to approval of the modification by the director.

(b) **Corrective action** as set forth in Section 40 CFR 144.55 and 146.7 and Subsection E of 19.15.43.9 NMAC.

(c) **Operation requirements** as set forth in 19.15.43 NMAC. The permit shall establish any maximum injection volumes and/or pressures necessary to assure that fractures are not initiated in the confining zone, that injected fluids do not migrate into any underground source of drinking water, that formation fluids are not displaced into any underground source of drinking water, and to assure compliance with the 19.15.43 NMAC operating requirements.

(d) **Monitoring and reporting requirements** as set forth in 19.15.43 NMAC. The permittee shall be required to identify types of tests and methods used to generate the monitoring data.

(e) **Financial responsibility.**

(i) The permittee, including the transferor of a permit, is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the director until (a) the well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to Subsection A of 19.15.42.12 NMAC, Subsection M of 19.15.43.9 NMAC, and 40 CFR 146.10, and submitted a plugging and abandonment report pursuant to Subsection A of 19.15.42.12 NMAC; or (b) the well has been converted in compliance with the requirements of Subsection A of 19.15.42.12 NMAC; or (c) the transferor of a permit has received notice from the director that the owner or operator receiving transfer of the permit, the new permittee, has demonstrated financial responsibility for the well.

(ii) The permittee shall show evidence of such financial responsibility to the director by the submission of a surety bond, or other adequate assurance, such as a financial statement or other materials acceptable to the director. The owner or operator of a well injecting hazardous waste must comply with the financial responsibility requirements of Section 40 CFR 144, Subpart F.

(iii) For Class VI wells, the permittee shall show evidence of such financial responsibility to the director by the submission of a qualifying instrument (see Subsection F of 19.15.43.9 NMAC), such as a financial statement or other materials acceptable to the director. The owner or operator of a Class VI well must comply with the financial responsibility requirements set forth in Subsection F of 19.15.43.9 NMAC.

(f) **Mechanical integrity.** A permit for any Class VI well which lacks mechanical integrity shall include a condition prohibiting injection operations until the permittee shows to the satisfaction of the director that the well has mechanical integrity.

(g) **Additional conditions.** The director shall impose on a case-by-case basis such additional conditions as are necessary to prevent the migration of fluids into underground sources of drinking water.

(3) In addition to conditions required in all permits the director shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the SDWA and Parts 144, 145, 146 and 124.

(4) An applicable requirement refers to any State statutory or regulatory provision that becomes effective prior to the final administrative action on a permit application. An applicable requirement also includes any provision that becomes effective prior to the modification or revocation and reissuance of a permit, consistent with the authority provided under Subsection H of 19.15.42.11 NMAC.

(5) New or reissued permits, and to the extent allowed under Subsection H of 19.15.42.11 NMAC modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in Subsection B of 19.15.42.12 NMAC.

(6) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

C. Schedule of compliance.

(1) General. The permit may, when appropriate, specify a schedule of compliance leading to compliance with the SDWA and Sections 19.15.41 NMAC, 19.15.42 NMAC, 19.15.43 NMAC, and 40 CFR 145.

(2) Time for compliance. Any schedules of compliance shall require compliance as soon as possible, and in no case later than three years after the effective date of the permit.

(3) Interim dates. Except as provided in paragraph (b)(1)(ii) of 40 CFR 144.53, if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(a) The time between interim dates shall not exceed one year.

(b) If the time necessary for completion of any interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(4) Reporting. The permit shall be written to require that if Paragraph (2) of this subsection is applicable, progress reports be submitted no later than 30 days following each interim date and the final date of compliance.

D. Requirements for recording and reporting of monitoring results. All permits shall specify:

(1) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(2) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including when appropriate, continuous monitoring;

(3) Applicable reporting requirements based upon the impact of the regulated activity and as specified in Section 19.15.43 NMAC. Reporting shall be no less frequent than specified in the above regulations.

[19.15.42.11 NMAC – N, XX/XX/XXXX]

19.15.42.12 STATE UIC PROGRAM REQUIREMENTS:

A. Requirements for enforcement authority.

(1) The energy, minerals and natural resources department oil conservation division shall have available the following remedies for violations of State program requirements:

(a) To restrain immediately and effectively any person by order or by suit in State court from engaging in any unauthorized activity which is endangering or causing damage to public health or environment;

(b) To sue in New Mexico district court to enjoin any threatened or continuing violation of any program requirement, including permit conditions, without the necessity of a prior revocation of the permit, as authorized under Subsection A of Section 70-2-6 and Paragraph (2) of Subsection A of Section 70-2-31 NMSA 1978.

(c) To assess or sue to recover in court civil penalties and to seek criminal remedies, including fines, as follows:

(i) For all wells except Class II wells, civil penalties shall be recoverable for any program violation in at least the amount of $2,500 per day. For Class II wells, civil penalties shall be recoverable for any program violation in at least the amount of $1,000 per day.

(ii) Criminal fines shall be recoverable in at least the amount of $5,000 per day against any person who willfully violates any program requirement, or for Class II wells, pipeline (production) severance shall be imposable against any person who willfully violates any program requirement.

(2) Enforcement related to Parts 41, 42 and 43 of Title 19, Chapter 15 shall be conducted pursuant to the processes and penalties described in Section 19.15.5.10 NMAC.

[19.15.42.12 NMAC – N, XX/XX/XXXX]

History of 19.15.42 NMAC: [RESERVED]

EXHIBIT 26-C

CONSERVATION GROUPS' POST-HEARING PROPOSED AMENDMENTS TO 19.15.43 NMAC

TITLE 19 NATURAL RESOURCES AND WILDLIFE
CHAPTER 15 OIL AND GAS
PART 43 UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS

19.15.43.1 ISSUING AGENCY: Oil Conservation Commission.
[19.15.43.1 NMAC – N, XX/XX/XXXX]

19.15.43.2 SCOPE: 19.15.43 NMAC applies to persons constructing, operating or closing a sequestration facility or engaged in the injection of carbon dioxide for the purposes of geologic sequestration under the Geologic Carbon Dioxide Storage Stewardship Act.
[19.15.43.2 NMAC – N, XX/XX/XXXX]

19.15.43.3 STATUTORY AUTHORITY: 19.15.43 NMAC is adopted pursuant to the Geologic Carbon Dioxide Storage Stewardship Act, Sections 74-14-1 through 74-14-7 and the Oil and Gas Act, Section 70-2-6, 70-2-11, and Paragraph (15) of Subsection B of Section 70-2-12 NMSA 1978.
[19.15.43.3 NMAC – N, XX/XX/XXXX]

19.15.43.4 DURATION: Permanent.
[19.15.43.4 NMAC – N, XX/XX/XXXX]

19.15.43.5 EFFECTIVE DATE: Month, Day, Year, unless a later date is cited at the end of the section.
[19.15.43.5 NMAC – N, XX/XX/XXXX]

19.15.43.6 OBJECTIVE: To regulate the permitting, construction, operation and closure of sequestration facilities, the injection of carbon dioxide for the purposes of geologic sequestration and to maintain primary enforcement authority for Safe Drinking Water Act (42 U.S.C. 300f et seq.) Underground Injection Control (UIC) program for UIC Class VI wells.
[19.15.43.6 NMAC – N, XX/XX/XXXX]

19.15.43.7 DEFINITIONS: The following definitions apply to this part:

A. Definitions beginning with the letter "A". "Abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

B. Definitions beginning with the letter "B". [RESERVED].

C. Definitions beginning with the letter "C".

(1) "Casing" means a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas, or other fluid from entering or leaving the hole.

(2) "Catastrophic collapse" means the sudden and utter failure of overlying "strata" caused by removal of underlying materials.

(3) "Cementing" means the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.

(4) "Confining bed" means a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.

(5) "Confining zone" means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement above an injection zone.

(6) "Conventional mine" means an open pit or underground excavation for the production of minerals.

D. Definitions beginning with the letter "D". "Disposal well" means a well used for the disposal of waste into a subsurface stratum.

E. Definitions beginning with the letter "E".

(1) "Effective date" of a UIC program means the date that a State UIC program is approved or established by the Administrator.

(2) "Experimental technology" means a technology which has not been proven feasible under the conditions in which it is being tested.

F. Definitions beginning with the letter "F".

(1) "Fault" means a surface or zone of rock fracture along which there has been displacement.

(2) "Flow rate" means the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.

G. Definitions beginning with the letter "G". [RESERVED].

H. Definitions beginning with the letter "H". [RESERVED].

I. Definitions beginning with the letter "I". [RESERVED].

J. Definitions beginning with the letter "J". [RESERVED].

K. Definitions beginning with the letter "K". [RESERVED].

L. Definitions beginning with the letter "L". "Lithology" means the description of rocks on the basis of their physical and chemical characteristics.

M. Definitions beginning with the letter "M". [RESERVED].

N. Definitions beginning with the letter "N". [RESERVED].

O. Definitions beginning with the letter "O". "Owner or operator" means the owner or operator of any facility or activity subject to regulation under the RCRA, UIC, NPDES, or 404 programs.

P. Definitions beginning with the letter "P".

(1) "Packer" means a device lowered into a well to produce a fluid-tight seal.

(2) "Permit" means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of this part and Section 19.15.41 NMAC, Section 19.15.42 NMAC, and Section 40 CFR 145. Permit does not include RCRA interim status (Section 40 CFR 122.23), UIC authorization by rule (Subsection C of 19.15.42.9 NMAC and Subsection A of 19.15.42.10 NMAC), or any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."

(3) "Plugging" means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.

(4) "Plugging record" means a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures.

(5) "Pressure" means the total load or force per unit area acting on a surface.

Q. Definitions beginning with the letter "Q". [RESERVED].

R. Definitions beginning with the letter "R". [RESERVED].

S. Definitions beginning with the letter "S".

(1) "Sole or principal source aquifer" means an aquifer which has been designated by the U.S. EPA Regional Administrator pursuant to section 1424 (a) or (e) of the SDWA.

(2) "Subsidence" means the lowering of the natural land surface in response to: Earth movements; lowering of fluid pressure; removal of underlying supporting material by mining or solution of solids, either artificially or from natural causes; compaction due to wetting (hydrocompaction); oxidation of organic matter in soils; or added load on the land surface.

(3) "Surface casing" means the first string of well casing to be installed in the well.

T. Definitions beginning with the letter "T". [RESERVED].

U. Definitions beginning with the letter "U". [RESERVED].

V. Definitions beginning with the letter "V". [RESERVED].

W. Definitions beginning with the letter "W".

(1) "Well plug" means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.

(2) "Well stimulation" means several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (a) surging, (b) jetting, (c) blasting, (d) acidizing, and (e) hydraulic fracturing.

(3) "Well monitoring" means the measurement, by on-site instruments or laboratory methods, of the quality of water in a well.

X. Definitions beginning with the letter "X". [RESERVED].

Y. Definitions beginning with the letter "Y". [RESERVED].

Z. Definitions beginning with the letter "Z". [RESERVED].

[19.15.43.7 NMAC – N, XX/XX/XXXX]

19.15.43.8 GENERAL PROVISIONS:

A. Criteria for exempted aquifers.

(1) An aquifer or a portion thereof which meets the criteria for an "underground source of drinking water" in Subsection YY of 19.15.41.7 NMAC may be determined under Section 40 CFR 144.7 to be an "exempted aquifer" for Class VI wells if it meets the following criteria:

(a) it does not currently serve as a source of drinking water; and

(b) it cannot now and will not in the future serve as a source of drinking water because:

(i) it is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible;

(ii) it is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;

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

(iv) it is located over a Class III well mining area subject to subsidence or catastrophic collapse; or

(v) the total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

(2) The areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under Section 40 CFR 144.7 if it meets the following criteria:

(a) it does not currently serve as a source of drinking water; and

(b) the total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and

(c) it is not reasonably expected to supply a public water system.

[19.15.43.8 NMAC – N, XX/XX/XXXX]

19.15.43.9 CRITERIA AND STANDARDS APPLICABLE TO CLASS VI WELLS:

A. Applicability. This subpart establishes criteria and standards for underground injection control programs to regulate any Class VI carbon dioxide geologic sequestration injection wells.

(1) This subpart applies to any wells used to inject carbon dioxide specifically for the purpose of geologic sequestration, i.e., the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations.

(2) This subpart also applies to owners or operators of permit- or rule-authorized Class I, Class II, or Class V experimental carbon dioxide injection projects who seek to apply for a Class VI geologic sequestration permit for their well or wells. Owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate to the director that the wells were engineered and constructed to meet the requirements at Subsection P of 19.15.43.9 NMAC and ensure protection of underground sources of drinking water (USDWs), in lieu of requirements at Paragraph (2) of Subsection G of 19.15.43.9 NMAC and Paragraph (1) of Subsection H of 19.15.43.9 NMAC. By December 10, 2011, owners or operators of either Class I wells previously permitted for the purpose of geologic sequestration or Class V experimental technology wells no longer being used for experimental purposes that will continue injection of carbon dioxide for the purpose of carbon sequestration must apply for a Class VI permit. A converted well must still meet all other requirements under 19.15.43.9 NMAC.

B. Definitions. The following definitions apply to this subpart. To the extent that these definitions conflict with those in Section 19.15.41.7 NMAC or Section 19.15.43.7 NMAC, these definitions govern for Class VI wells:

(1) "**Area of review"** means the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and displaced fluids, and is based on available site characterization, monitoring, and operational data as set forth in Subsection I of 19.15.43.9 NMAC.

(2) "**Carbon dioxide plume"** means the extent underground, in three dimensions, of an injected carbon dioxide stream.

(3) "**Carbon dioxide stream"** means carbon dioxide that has been captured from an emission source (e.g., a power plant), plus incidental associated substances derived from the source materials and the capture process, and any substances added to the stream to enable or improve the injection process. This subpart does not apply to any carbon dioxide stream that meets the definition of a hazardous waste under Section 40 CFR 261.

(4) **"Confining zone"** means a geologic formation, group of formations, or part of a formation stratigraphically overlying the injection zone(s) that acts as barrier to fluid movement. For Class VI wells operating under an injection depth waiver, confining zone means a geologic formation, group of formations, or part of a formation stratigraphically overlying and underlying the injection zone(s).

(5) **"Corrective action"** means the use of director-approved methods to ensure that wells within the area of review do not serve as conduits for the movement of fluids into USDWs.

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

(7) **"Geologic sequestration project"** means an injection well or wells used to emplace a carbon dioxide stream beneath the lowermost formation containing a USDW; or, wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at Subsection P of 19.15.43.9 NMAC; or, wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to Subsection A of 19.15.43.8 NMAC and Section 40 CFR 144.7(d). It includes the subsurface three-dimensional extent of the carbon dioxide plume, associated area of elevated pressure, and displaced fluids, as well as the surface area above that delineated region.

(8) **"Injection zone"** means a geologic formation, group of formations, or part of a formation that is of sufficient areal extent, thickness, porosity, and permeability to receive carbon dioxide through a well or wells associated with a geologic sequestration project.

(9) **"Intensive Corrective Action Area"** means the area into which brine with supercritical carbon dioxide will potentially intrude, defined radially from the injection well location as the maximum plume boundary extent across all model simulations, with an additional buffer of half the distance of the maximum plume boundary extent.

(10) "**Plume stabilization"** mean the state when the carbon dioxide stream that has been injected subsurface essentially no longer expands vertically or horizontally, as demonstrated by a minimum of five consecutive years of monitoring data.

~~(9)~~**(11)** **"Post-injection site care"** means appropriate monitoring and other actions (including corrective action) needed following cessation of injection to ensure plume stabilization has occurred and that USDWs are not endangered, as required under Subsection N of 19.15.43.9 NMAC.

~~(10)~~**(12)** **"Pressure front"** means the zone of elevated pressure that is created by the injection of carbon dioxide into the subsurface. For the purposes of this subpart, the pressure front of a carbon dioxide plume refers to a zone where there is a pressure differential sufficient to cause the movement of injected fluids or formation fluids into a USDW.

~~(11)~~**(13)** **"Site closure"** means the point/time, as determined by the director following the requirements under Subsection N of 19.15.43.9 NMAC, at which the owner or operator of a geologic sequestration site is released from post-injection site care responsibilities.

~~(12)~~**(14)** **"Transmissive fault or fracture"** means a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.

C. Required Class VI permit information. This section sets forth the information which must be considered by the director in authorizing Class VI wells. For converted Class I, Class II, or Class V experimental wells, certain maps, cross-sections, tabulations of wells within the area of review and other data may be included in the application by reference provided they are current, readily available to the director, and sufficiently identified to be retrieved. In cases where EPA issues the permit, all the information in this section must be submitted to the Regional Administrator.

(1) Prior to the issuance of a permit for the construction of a new Class VI well or the conversion of an existing Class I, Class II, or Class V well to a Class VI well, the owner or operator shall submit, pursuant to Paragraph (5) of Subsection L of 19.15.43.9 NMAC, and the director shall consider the following:

(a) Information required in Subsection A of 19.15.42.11 NMAC;

(b) A map showing the injection well for which a permit is sought and the applicable area of review consistent with Subsection E of 19.15.43.9 NMAC. Within the area of review, the map must show the number or name, and location of all injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, state- or EPA-approved subsurface cleanup sites, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells, other pertinent surface features including structures intended for human occupancy, state, tribal, and territory boundaries, and roads. The map should also show faults, if known or suspected. Only information of public record is required to be included on this map;

(c) Information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, including:

(i) maps and cross sections of the area of review;

(ii) the location, orientation, and properties of known or suspected faults and fractures ~~that may transect the confining zone(s)~~ in the area of review and a determination that they would not interfere with containment under anticipated changes in pressure associated with injection;

(iii) data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone(s); including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;

(iv) geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone(s);

(v) information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment under anticipated changes in pressure associated with injection; and

(vi) geologic and topographic maps and cross sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.

(d) A comprehensive tabulation of all wells within the area of review. The tabulation shall include, at a minimum, each well's type, construction, date drilled, location, total depth, plugging and/or completion record, and any other information the director may require. For all wells that penetrate the confining zone and/or injection zone, the operator shall provide additional documentation sufficient to evaluate the potential for fluid migration along the wellbore. This may include, but is not limited to, casing and cement integrity records, mechanical integrity test results, and any relevant historical or geophysical data necessary to assess the risk to underground sources of drinking water.

(e) Maps and stratigraphic cross sections indicating the general vertical and lateral limits of all USDWs, water wells and springs within the area of review, their positions relative to the injection zone(s), and the direction of water movement, where known;

(f) Baseline geochemical data on subsurface formations, including all USDWs in the area of review;

(g) Proposed operating data for the proposed geologic sequestration site:

(i) average and maximum daily rate and volume and/or mass and total anticipated volume and/or mass of the carbon dioxide stream;

(ii) average and maximum injection pressure;

(iii) the source(s) of the carbon dioxide stream; and

(iv) an analysis of the chemical and physical characteristics of the carbon dioxide stream.

(h) Proposed pre-operational formation testing program to obtain an analysis of the chemical and physical characteristics of the injection zone(s) and confining zone(s) and that meets the requirements at Subsection H of 19.15.43.9 NMAC;

(i) proposed stimulation program, a description of stimulation fluids to be used and a determination that stimulation will not interfere with containment;

(j) proposed injection operation procedures;

(k) schematics or other appropriate drawings of the surface and subsurface construction details of the well;

(l) injection well construction procedures that meet the requirements of Subsection G of 19.15.43.9 NMAC;

(m) proposed area of review and corrective action plan that meets the requirements under Subsection E of 19.15.43.9 NMAC;

(n) a demonstration, satisfactory to the director, that the applicant has met the

financial responsibility requirements under Subsection F of 19.15.43.9 NMAC;

(o) proposed testing and monitoring plan required by Subsection K of 19.15.43.9 NMAC;

(p) proposed injection well plugging plan required by Paragraph (2) of Subsevtion M of 19.15.43.9 NMAC;

(q) proposed post-injection site care and site closure plan required by Paragraph (1) of Subsection N of 19.15.43.9 NMAC;

(r) At the director's discretion, a demonstration of an alternative post-injection site care timeframe required by Paragraph (3) of Subsection N of 19.15.43.9 NMAC;

(s) Proposed emergency and remedial response plan required by Paragraph (1) of Subsection O of 19.15.43.9 NMAC;

(t) A list of contacts, submitted to the director, for those states, tribes, and territories identified to be within the area of review of the Class VI project based on information provided in Subparagraph (b) of Paragraph (1) of this Subsection;

(u) A summary of community outreach activities conducted with communities located within the AoR prior to submittal of the permit application; and

(v) Any other information requested by the director.

(2) The director shall notify, in writing, any states, tribes, or territories within the area of review of the Class VI project based on information provided in Subparagraphs (b) and (t) of Paragraph (1) of this Subsection of the permit application and pursuant to the requirements at Section 40 CFR 145.23(f)(13).

(3) Prior to granting approval for the operation of a Class VI well, the director shall consider the following information:

(a) The final area of review based on modeling, using data obtained during logging and testing of the well and the formation as required by Subparagraphs (b), (c), (d), (e), (f), and (j) of Paragraph (3) this Subsection;

(b) Any relevant updates, based on data obtained during logging and testing of the well and the formation as required by Subparagraphs (c), (d), (f), (g), and (j) of Paragraph (3) of this Subsection, to the information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, submitted to satisfy the requirements of Subparagraph (c) of Paragraph (1) of this Subsection;

(c) Information on the compatibility of the carbon dioxide stream with fluids in the injection zone(s) and minerals in both the injection and the confining zone(s), based on the results of the formation testing program, and with the materials used to construct the well;

(d) The results of the formation testing program required at Subparagraph (h) of Paragraph (1) of this Subsection;

(e) Final injection well construction procedures that meet the requirements of Subsection G of 19.15.43.9 NMAC;

(f) The status of corrective action on wells in the area of review;

(g) All available logging and testing program data on the well required by Subsection H of 19.15.43.9 NMAC;

(h) A demonstration of mechanical integrity pursuant to Subsection J of 19.15.43.9 NMAC;

(i) Any updates to the proposed area of review and corrective action plan, testing and monitoring plan, injection well plugging plan, post-injection site care and site closure plan, or the emergency and remedial response plan submitted under Paragraph (1) of this Subsection, which are necessary to address new information collected during logging and testing of the well and the formation as required by all paragraphs of this section, and any updates to the alternative post-injection site care timeframe demonstration submitted under Paragraph (1) of this Subsection, which are necessary to address new information collected during the logging and testing of the well and the formation as required by all paragraphs of this section; and

(j) Any other information requested by the director.

(4) Owners or operators seeking a waiver of the requirement to inject below the lowermost USDW must also refer to Subsection P of 19.15.43.9 NMAC and submit a supplemental report, as required at Paragraph (1) of Subsection P of 19.15.43.9 NMAC. The supplemental report is not part of the permit application.

D. Minimum criteria for siting.

(1) Owners or operators of Class VI wells must demonstrate to the satisfaction of the director that the wells will be sited in areas with a suitable geologic system. The owners or operators must demonstrate that the geologic system comprises:

(a) An injection zone(s) of sufficient areal extent, thickness, porosity, and permeability to receive the total anticipated volume of the carbon dioxide stream;

(b) Confining zone(s) free of transmissive faults or fractures and of sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced formation fluids and allow injection at proposed maximum pressures and volumes without initiating or propagating fractures in the confining zone(s).

(2) The director may require owners or operators of Class VI wells to identify and characterize additional zones that will impede vertical fluid movement, are free of faults and fractures that may interfere with containment, allow for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and remediation.

E. Area of review and corrective action.

(1) The area of review is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and is based on available site characterization, monitoring, and operational data.

(2) The owner or operator of a Class VI well must prepare, maintain, and comply with a plan to delineate the area of review for a proposed geologic sequestration project, periodically reevaluate the delineation, and perform corrective action that meets the requirements of this section and is acceptable to the director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. As a part of the permit application for approval by the director, the owner or operator must submit an area of review and corrective action plan that includes the following information:

(a) The method for delineating the area of review that meets the requirements of Paragraph (3) of this Subsection, including the model to be used, assumptions that will be made, and the site characterization data on which the model will be based;

(b) A description of:

(i) The fixed frequency between AoR reevaluations, which must include an initial reevaluation two years after injection begins, and at no time may exceed four years;

(ii) The monitoring and operational conditions that would warrant a reevaluation of the area of review prior to the next scheduled reevaluation as determined by the minimum fixed frequency established in item (i) of Subparagraph (b) of Paragraph (2) of this Subsection, including pre-specified, well-specific exceedance thresholds in pressure monitoring data and geochemical monitoring data and the discovery of a previously unidentified artificial penetration;

(iii) How monitoring and operational data (e.g., injection rate and pressure) will be used to inform an area of review reevaluation; ~~and~~

(iv) How corrective action will be conducted to meet the requirements of Paragraph (4) of this Subsection, including what corrective action will be performed prior to injection and what, if any, portions of the area of review will have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action; and

(c) Findings of independent, certified third-party verification of the modeling ensemble used to delineate the area of review.

(3) Using a qualified person, owners ~~Owners~~ or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:

(a) Predict, using existing site characterization, monitoring and operational data, and computational, peer-reviewed or commercially-available modeling, the projected lateral and vertical migration of the carbon dioxide plume ~~and formation fluids in the subsurface from the commencement of injection activities~~ until the plume movement ceases~~, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director~~, calculate the area over which induced pressure differentials could drive movement of formation fluids or injected fluids into a USDW over the maximum duration of injection, and define the AoR as the union of these two areas. The model must:

(i) Use an ensemble approach that considers the full range of realistic variation in and interaction among key parameters, including permeability-field parameters, kv/kh ratio, porosity, and relative permeability curves and hysteresis;

~~(i)~~(ii) Be based on detailed geologic data collected from at least three wells to characterize the injection zone(s), confining zone(s) and any additional zones; and anticipated operating data, including injection pressures, rates, and total volumes over the proposed life of the geologic sequestration project;

(iii) Calculate the project AoR as the union of all potential AoRs computed using pressure-driven methods, the areal CO2 plume extent, and a simple scalar factor for estimating distance of pressure front based on maximum plume extent;

~~**(ii)**~~ **(iv)** Evaluate and incorporate considerations of any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions;

(v) Evaluate reactive transport to account for the geochemical reactions and lithology of the target reservoir and caprocks;

(vi) Identify the Intensive Corrective Action Area;

~~**(iii)**~~ **(vii)** Consider potential migration through faults, fractures, and artificial penetrations, using 3D seismic characterization;

(viii) Consider pressure and chemical interactions with all other operational or historic injection projects within a ten-mile radius;

(ix) Describe the conceptual model, numerical or analytical method, software and version used, governing assumptions, initial and boundary conditions, input parameters and sources of data;

(x) Describe the calibration methodology and results, where calibration data are available;

(xi) Provide sufficient documentation to allow the director to evaluate and reproduce, or independently review, the material conclusions of the modeling analysis;

(xii) Evaluate the sensitivity of predicted plume migration, pressure-front movement and area of review delineation to material uncertainty in site characterization data, formation properties, operational assumptions and model parameters; and

(xiii) Describe material sources of uncertainty and explain how those uncertainties were considered in delineating the area of review and developing the corrective-action and testing and monitoring plans.

(b) Confirm the model's validity by placement of a monitoring well where plume is modeled to be after one year of commencement of injection.

~~**(b)**~~**(c)** Using all appropriate databases and other methods approved by the director, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone(s). When plugging records are incomplete, use field testing to identify all penetrations. Provide a ~~description~~ record of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the director may require.

~~**(c)**~~**(d)** Determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs, including use of materials compatible with the carbon dioxide stream.

(e) Use independent, certified third-party verification of modeling ensemble.

(4) Owners or operators of Class VI wells must perform corrective action on all wells in the area of review that are determined to need corrective action or breach any layer of the confining layer, or that are located in the Intensive Corrective Action Area, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream and re-plugging with carbon dioxide resistant cement at all depths~~, where appropriate~~.

(5) An initial AoR reevaluation shall occur no later than two years following the commencement of injection operations, or if the owners or operators fail to confirm the model's validity as specified in Subparagraph (b) of Paragraph (3) of Subsection E of 19.15.43.9 NMAC, the difference between the measured and modeled increases in pressure exceeds either 20 percent of the modeled increase in pressure or 50 kilopascals, the plume is detected in a monitoring well the plume was not expected to reach or more than one month earlier than expected, a seismic event greater than or equal to moment magnitude 2.0 occurs within the modeled pressure footprint, injection commences by another operator in the same formation or a hydraulically connected zone within the pressure footprint, or the owner, operator, or regulator discovers a previously unidentified well, fault, or fracture within the AoR. This early reevaluation must be used to confirm the accuracy and reliability of predictive modeling results submitted as part of the original permit application. Upon demonstration to the director, in accordance with Subparagraph (d) of Paragraph (5) of Subsection E of 19.15.43.9 NMAC, that the predictive modeling appropriately represents site conditions, AoR reevaluation frequency may be reduced to a minimum of once every four years. When conducting an AoR reevaluation an owner or operator must:

(a) Reevaluate the area of review in the same manner specified in Subparagraph (a) of Paragraph (3) and Paragraph (5) of this Subsection;

(b) Identify all wells in the reevaluated area of review that require corrective action in the same manner specified in Paragraph (3) of this Subsection;

(c) Perform corrective action on wells requiring corrective action in the reevaluated area of review in the same manner specified in Paragraph (4) of this Subsection; and

(d) Submit an amended area of review and corrective action plan or demonstrate to the director through monitoring data and modeling results that no amendment to the area of review and corrective action plan is needed. Any amendments to the area of review and corrective action plan must be approved by the director, must be incorporated into the permit, and are subject to the permit modification requirements at Subsection H of 19.15.42.11 NMAC or Subsection J of 19.15.42.11 NMAC, as appropriate.

(6) The emergency and remedial response plan (as required by Subsection O of 19.15.43.9 NMAC) and the demonstration of financial responsibility (as described by Subsection F of 19.15.43.9 NMAC) must account for the area of review delineated as specified in Subparagraph (a) of Paragraph (3) of this Subsection or the most recently evaluated area of review delineated under Paragraph (5) of this Subsection, regardless of whether or not corrective action in the area of review is phased.

(7) All modeling inputs and data used to support area of review reevaluations under Paragraph (5) of this Subsection shall be retained for 10 years after site closure.

F. Financial responsibility.

(1) The financial responsibility instrument(s) used by the owner or operator must be selected from the list of qualifying instruments approved under this section and shall also comply with Subsection B of 19.15.8.8 NMAC. All financial assurance documents must be submitted on forms prescribed by, or otherwise acceptable to, the division:

(a) The financial responsibility instrument(s) used must be from the following list of qualifying instruments:

(i) Trust funds.

(ii) Surety bonds that satisfy all applicable requirements set forth in Sections 19.15.8.9-10 NMAC.

(iii) Letter of credit that satisfies all applicable requirements set forth in Section 19.15.8.9 and Subsections A-E of 19.15.8.11 NMAC.

(iv) Insurance.

~~**(v)** Self insurance (i.e., Financial Test and Corporate Guarantee).~~

(vi) Escrow account adhering to the requirements under Section 19.15.8.10 NMAC.

~~**(vii)** Any other instrument(s) satisfactory to the director.~~

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

(i) Corrective action (that meets the requirements of Subsection E of 19.15.43.9 NMAC;

(ii) Injection well plugging (that meets the requirements of Subsection M of 19.15.43.9 NMAC and all additional requirements under Paragraph (1) and Subparagraphs (a)-(c) of Paragraph (2) of Subsection C of 19.15.8.15 NMAC;

(iii) Post injection site care and site closure (that meets the requirements of Subsection N of 19.15.43.9 NMAC, all additional requirements under Subsections A, B, C, D, E, F and Paragraphs (1)-(3) of Subsection G of 19.15.8.15 NMAC; and

(iv) Emergency and remedial response (that meets the requirements of Subsection O of 19.15.43.9 NMAC).

(c) The financial responsibility instrument(s) must be sufficient to address endangerment of underground sources of drinking water.

(d) The qualifying financial responsibility instrument(s) must comprise protective conditions of coverage.

(i) Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.

(ii) Cancellation—for purposes of this part, an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the

director. The cancellation must not be final for 120 days after receipt of cancellation notice. The owner or operator must provide an alternate financial ~~responsibility demonstration~~ mechanism within 60 days of notice of cancellation, and if an alternate financial ~~responsibility demonstration~~ mechanism is not acceptable (or possible), ~~any funds from the instrument being cancelled must be released~~ the provider of the financial instrument being canceled must release all funds from that instrument to the Director within 60 days of notification by the Director.

(iii) Renewal—for purposes of this part, owners or operators must renew all financial instruments, if an instrument expires, for the entire term of the geologic sequestration project. The instrument may be automatically renewed as long as the owner or operator has the option of renewal at the face amount of the expiring instrument. The automatic renewal of the instrument must, at a minimum, provide the holder with the option of renewal at the face amount of the expiring financial instrument.

(iv) Cancellation, termination, or failure to renew may not occur and the financial instrument will remain in full force and effect in the event that on or before the date of expiration: The director deems the facility abandoned; or the permit is terminated or revoked or a new permit is denied; or closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or the amount due is paid.

(e) The qualifying financial responsibility instrument(s) must be approved by the director.

(i) The director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue a Class VI permit (Subsection C of 19.15.43.9 NMAC).

(ii) The owner or operator must provide any updated information related to their financial responsibility instrument(s) on an annual basis and if there are any changes, the director must evaluate, within a reasonable time, the financial responsibility demonstration to confirm that the instrument(s) used remain adequate for use. The owner or operator must maintain financial responsibility requirements regardless of the status of the director's review of the financial responsibility demonstration.

(iii) The director may disapprove the use of a financial instrument if he determines that it is not sufficient to meet the requirements of this section.

(f) The owner or operator may demonstrate financial responsibility by using one or multiple qualifying financial instruments for specific phases of the geologic sequestration project.

(i) In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance (i.e., ~~self insurance or~~ performance bond), for example trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, escrow account, and insurance. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.

(ii) When using a third-party instrument to demonstrate financial responsibility, the owner or operator must provide a proof that the third-party providers either have passed financial strength requirements based on credit ratings; or has met a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.

(iii) An owner or operator using certain types of third-party instruments must establish a standby trust to enable the oil conservation division to be party to the financial responsibility agreement without being the beneficiary of any funds. The standby trust fund must be used along with other financial responsibility instruments (e.g., surety bonds, letters of credit, or escrow accounts) to provide a location to place funds if needed.

(iv) An owner or operator may deposit money to an escrow account to cover financial responsibility requirements; this account must segregate funds sufficient to cover estimated costs for Class VI (geologic sequestration) financial responsibility from other accounts and uses.

~~**(v)** An owner or operator or its guarantor may use self insurance to demonstrate financial responsibility for geologic sequestration projects. In order to satisfy this requirement the owner or operator must meet a Tangible Net Worth of an amount approved by the director, have a net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost, have assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost, and must submit a report of its bond rating and financial information annually. In addition the owner or operator must either: Have a bond rating test of AAA, AA, A, or BBB as issued by Standard & Poor's or Aaa, Aa, A, or Baa as issued by~~

~~Moody's; or meet all of the following five financial ratio thresholds: A ratio of total liabilities to net worth less than 2.0; a ratio of current assets to current liabilities greater than 1.5; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; A ratio of current assets minus current liabilities to total assets greater than −0.1; and a net profit (revenues minus expenses) greater than 0.~~

~~**(vi)** An owner or operator who is not able to meet corporate financial test criteria may arrange a corporate guarantee by demonstrating that its corporate parent meets the financial test requirements on its behalf. The parent's demonstration that it meets the financial test requirement is insufficient if it has not also guaranteed to fulfill the obligations for the owner or operator.~~

(vii) An owner or operator may obtain an insurance policy to cover the estimated costs of geologic sequestration activities requiring financial responsibility. This insurance policy must be obtained from a third party provider.

(2) The requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of the permit.

(a) The owner or operator must maintain financial responsibility and resources until:

(i) the director receives and approves the completed post-injection site care and site closure plan; and

(ii) the director approves site closure.

(b) The owner or operator may be released from a financial instrument in the following circumstances:

(i) The owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the director, including obtaining financial responsibility for the next phase of the GS project. As set forth in Subsection A of 19.15.8.12 NMAC, the division shall release a financial assurance document upon the operator's or surety's written request if all wells drilled or acquired under that financial assurance have been plugged and abandoned and the location restored and remediated and released pursuant to Subsection M of 19.15.43.9 NMAC, Sections 19.15.25.9 NMAC through 19.15.25.11 NMAC; or

(ii) The owner or operator has submitted a replacement financial instrument and received written approval from the director accepting the new financial instrument and releasing the owner or operator from the previous financial instrument.

(3) The owner or operator must have a detailed written estimate, in current dollars, of the cost of performing corrective action on wells in the area of review, plugging the injection well(s), post-injection site care and site closure, and emergency and remedial response.

(a) The cost estimate must be performed for each phase separately and must be based on the costs to the regulatory agency of hiring a third party to perform the required activities. A third party is a party who is not within the corporate structure of the owner or operator.

(b) During the active life of the geologic sequestration project, the owner or operator must adjust the cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with Paragraph (1) of this Subsection and provide this adjustment to the director. The owner or operator must also provide to the director written updates of adjustments to the cost estimate within 60 days of any amendments to the area of review and corrective action plan (Subsection E of 19.15.43.9 NMAC), the injection well plugging plan (Subsection M of 19.15.43.9 NMAC), the post-injection site care and site closure plan (Subsection N of 19.15.43.9 NMAC), and the emergency and remedial response plan (Subsection O of 19.15.43.9 NMAC).

(c) The director must approve any decrease or increase to the initial cost estimate. During the active life of the geologic sequestration project, the owner or operator must revise the cost estimate no later than 60 days after the director has approved the request to modify the area of review and corrective action plan (Subsection E of 19.15.43.9 NMAC), the injection well plugging plan (Subsection M of 19.15.43.9 NMAC), the post-injection site care and site closure plan (Subsection N of 19.15.43.9 NMAC), and the emergency and response plan (Subsection O of 19.15.43.9 NMAC), if the change in the plan increases the cost. If the change to the plans decreases the cost, any withdrawal of funds must be approved by the director. Any decrease to the value of the financial assurance instrument must first be approved by the director. The revised cost estimate must be adjusted for inflation as specified at Subparagraph (b) of Paragraph (3) of this Subsection.

(d) Whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit

evidence of such increase to the director, or obtain other financial responsibility instruments to cover the increase. Whenever the current cost estimate decreases, the face amount of the financial assurance instrument may be reduced to the amount of the current cost estimate only after the owner or operator has received written approval from the director.

(4) The owner or operator must notify the director by certified mail of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging and post-injection site care and site closure.

(a) In the event that the owner or operator or the third party provider of a financial responsibility instrument is going through a bankruptcy, the owner or operator must notify the director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.

(b) A guarantor of a corporate guarantee must make such a notification to the director if the guarantor is named as debtor, as required under the terms of the corporate guarantee.

(c) An owner or operator who fulfills the requirements of Paragraph (1) of this Subsection by obtaining a trust fund, surety bond, letter of credit, escrow account, or insurance policy will be deemed to be without the required financial assurance in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee of the institution issuing the trust fund, surety bond, letter of credit, escrow account, or insurance policy. The owner or operator must establish other financial assurance within 60 days after such an event.

(5) The owner or operator must provide an adjustment of the cost estimate to the director within 60 days of notification by the director, if the director determines during the annual evaluation of the qualifying financial responsibility instrument(s) that the most recent demonstration is no longer adequate to cover the cost of corrective action (as required by Subsection E of 19.15.43.9 NMAC), injection well plugging (as required by Subsection M of 19.15.43.9 NMAC), post-injection site care and site closure (as required by Subsection N of 19.15.43.9 NMAC), and emergency and remedial response (as required by Subsection O of 19.15.43.9 NMAC).

(6) The director must approve the use and length of pay-in-periods for trust funds or escrow accounts.

G. Injection well construction requirements.

(1) General. The owner or operator must ensure that all Class VI and monitoring wells are constructed and completed to:

(a) Prevent the movement of fluids into or between USDWs or into any unauthorized zones;

(b) Permit the use of appropriate testing devices and workover tools; and

(c) Permit continuous monitoring of the annulus space between the injection tubing and long string casing.

(2) Casing and cementing of Class VI wells.

(a) Casing and cement or other materials used in the construction of each Class VI well and monitoring wells must have sufficient structural strength and be designed for the life of the geologic sequestration project. All well materials must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the director. The casing and cementing program must be designed to prevent the movement of fluids into or between USDWs. In order to allow the Director to determine and specify casing and cementing requirements, the owner or operator must provide the following information:

(i) depth to the injection zone(s);

(ii) injection pressure, external pressure, internal pressure, and axial loading;

(iii) hole size;

(iv) size and grade of all casing strings (wall thickness, external diameter, nominal weight, length, joint specification, and construction material);

(v) corrosiveness of the carbon dioxide stream and formation fluids;

(vi) down-hole temperatures;

(vii) lithology of injection and confining zone(s);

(viii) specified cement type or grade, including all proposed additives, as well as the anticipated slurry density (lb/gal) and volumetric yield (cu ft/sack); and

(ix) quantity, chemical composition, and temperature of the carbon dioxide

stream.

(b) Surface casing for all Class VI wells and monitoring wells shall be set and cemented through the base of the deepest known USDW and must extend into an underlying confining unit, such as a competent shale formation. The casing must be cemented with a volume sufficient to achieve full cement return from the casing shoe to the surface.

(c) At least one long string casing, using a sufficient number of centralizers, must extend to the injection zone and must be cemented by circulating cement to the surface in one or more stages.

(d) Circulation of cement may be accomplished by staging. The director may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement does not allow fluid movement behind the well bore.

(e) Cement and cement additives must be compatible with the carbon dioxide stream and formation fluids and of sufficient quality and quantity to maintain integrity over the design life of the geologic sequestration project. The integrity and location of the cement shall be verified using technology capable of evaluating cement quality radially and identifying the location of channels to ensure that USDWs are not endangered.

(3) Tubing and packer.

(a) Tubing and packer materials used in the construction of each Class VI well and monitoring wells must be compatible with fluids with which the materials may be expected to come into contact across all zones for all depths and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the director.

(b) All owners or operators of Class VI wells must inject fluids through tubing with a packer set at a depth opposite a cemented interval at the location approved by the director.

(c) In order for the director to determine and specify requirements for tubing and packer, the owner or operator must submit the following information:

(i) depth of setting;

(ii) characteristics of the carbon dioxide stream (chemical content, corrosiveness, temperature, and density) and formation fluids;

(iii) maximum proposed injection pressure;

(iv) maximum proposed annular pressure;

(v) proposed injection rate (intermittent or continuous) and volume and/or mass of the carbon dioxide stream;

(vi) size of tubing and casing; and

(vii) tubing tensile, burst, and collapse strengths.

H. Logging, sampling, and testing prior to injection well operation.

(1) During the drilling and construction of a Class VI injection well, the owner or operator must run appropriate logs, surveys and tests to determine or verify the depth, thickness, porosity, permeability, and lithology of, and the salinity of any formation fluids in all relevant geologic formations to ensure conformance with the injection well construction requirements under Subsection G of 19.15.43.9 NMAC and to establish accurate baseline data against which future measurements may be compared. In order to obtain approval for injection, the owner or operator must submit the appropriate forms to the Director along with all required attachments including a descriptive report prepared by a knowledgeable log analyst that includes an interpretation of the results of such logs and tests. At a minimum, such logs and tests must include:

(2) Deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the deviation from the original pilot hole to ensure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling; and

(a) before and upon installation of the surface casing:

(i) Gamma ray, resistivity, spontaneous potential, and caliper logs before the casing is installed; and

(ii) a cement bond and variable density log to evaluate cement quality radially, and a temperature log after the casing is set and cemented.

(b) Before and upon installation of the long string casing:

(i) Gamma ray, resistivity, spontaneous potential, porosity, caliper, fracture finder logs, and any other logs the director requires for the given geology before the casing is installed; and

(ii) a cement bond and variable density log, and a temperature log after the

casing is set and cemented.

(c) A series of tests designed to demonstrate the internal and external mechanical integrity of injection wells, which may include:

(i) a pressure test with liquid or gas;

(ii) a tracer survey such as oxygen-activation logging;

(iii) a temperature or noise log;

(iv) a casing inspection log; and

(d) any alternative methods that provide equivalent or better information and that are required by or approved of by the director.

(3) The owner or operator must take whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone(s), and must submit to the director a detailed report prepared by a log analyst that includes: Well log analyses (including well logs), core analyses, and formation fluid sample information. The director may accept information on cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The director may require the owner or operator to core other formations in the borehole.

(4) The owner or operator must record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone(s).

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

(a) fracture pressure;

(b) other physical and chemical characteristics of the injection and confining zone(s); and

(c) physical and chemical characteristics of the formation fluids in the injection zone(s).

(6) Upon completion, but prior to operation, the owner or operator must conduct the following tests to verify hydrogeologic characteristics of the injection zone(s):

(a) a pressure fall-off test; and

(b) a pump test; or

(c) injectivity tests.

(7) The operator shall provide the division with the opportunity to witness all planned well workovers, stimulation activities and any testing or logging operations. A proposed schedule of these activities must be submitted to the division no less than 30 days prior to the commencement of the first such activity. Additionally, the operator must provide at least 48 hours of advance notice before initiating any specific activity. No activity may begin before the 30-day review period has concluded unless prior written authorization is granted by the director.

I. Injection well operating requirements.

(1) Except during stimulation, the owner or operator must ensure that injection pressure does not exceed 90 percent of the fracture pressure of the injection zone(s) so as to ensure that the injection does not initiate new fractures or propagate existing fractures in the injection zone(s). In no case may injection pressure initiate fractures in the confining zone(s) or cause the movement of injection or formation fluids that endangers a USDW. Pursuant to requirements at Subparagraph (i) of Paragraph (1) of Subsection C of 19.15.43.9 NMAC, all stimulation programs must be approved by the director as part of the permit application and incorporated into the permit.

(2) Injection between the outermost casing protecting USDWs and the well bore is prohibited.

(3) The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the director. The owner or operator must maintain on the annulus a pressure that exceeds the operating injection pressure, unless the director determines that such requirement might harm the integrity of the well or endanger USDWs.

(4) Other than during periods of well workover (maintenance) approved by the director in which the sealed tubing-casing annulus is disassembled for maintenance or corrective procedures, the owner or operator must maintain mechanical integrity of the injection well at all times.

(5) The owner or operator must install, use, and maintain:

(a) continuous recording devices adhering to the standards set forth in Section 19.15.26.11 NMAC, to monitor the injection pressure; the rate, volume and mass, and temperature of the carbon dioxide stream; and the pressure on the annulus between the tubing and the long string casing and annulus fluid volume; and

(b) alarms and automatic surface shut-off systems or, at the discretion of the director, down-hole shut-off systems (e.g., automatic shut-off, check valves) for onshore wells or, other mechanical devices that provide equivalent protection; and

(c) alarms and automatic down-hole shut-off systems for wells located offshore but within State territorial waters, designed to alert the operator and shut-in the well when operating parameters such as annulus pressure, injection rate, or other parameters diverge beyond permitted ranges and/or gradients specified in the permit.

(d) All alarms shall be integrated with an automated shutdown system to ensure immediate response to critical operating conditions.

(e) The operator shall function test all automated emergency shutdown systems at least once every six months.

(6) If a shutdown (i.e., down-hole or at the surface) is triggered or a loss of mechanical integrity is discovered, the owner or operator must immediately investigate and identify as expeditiously as possible the cause of the shutoff. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required under Paragraph (5) of this Subsection otherwise indicates that the well may be lacking mechanical integrity, the owner or operator must:

(a) immediately cease injection;

(b) take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluids into any unauthorized zone;

(c) notify the director within 24 hours;

(d) restore and demonstrate mechanical integrity to the satisfaction of the director prior to resuming injection; and

(e) notify the director when injection can be expected to resume.

J. *Mechanical integrity*.

(1) A Class VI well has mechanical integrity if:

(a) there is no significant leak in the casing, tubing, or packer; and

(b) there is no significant fluid movement into a USDW through channels adjacent to the injection well bore.

(2) To evaluate the absence of significant leaks under Subparagraph (a) of Paragraph (1) of this Subsection, owners or operators must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in Paragraph (5) of Subsection I of 19.15.43.9 NMAC.

(3) At least once per year, the owner or operator must use one of the following methods to determine the absence of significant fluid movement under Subparagraph (b) of Paragraph (1) of this subsection:

(a) An approved tracer survey such as an oxygen-activation log; or

(b) A temperature or noise log.

(4) If required by the director, at a frequency specified in the testing and monitoring plan pursuant to Subsection K of 19.15.43.9 NMAC, the owner or operator must run a casing inspection log to evaluate the presence or absence of corrosion or other signs of degradation in the long-string casing. The frequency and scope of subsequent casing inspection logs may be modified by the director based on the results of the most recent inspection, or if the well has been compromised and requires a workover or significant remedial action.

(5) The director may require any other test to evaluate mechanical integrity under Subparagraphs (a) or (b) of Paragraph (1) of this Subsection. Also, the director may allow the use of a test to demonstrate mechanical integrity other than those listed above with the written approval of the EPA. To obtain approval for a new mechanical integrity test, the director must submit a written request to the EPA setting forth the proposed test and all technical data supporting its use.

(6) In conducting and evaluating the tests enumerated in this section or others to be allowed by the director, the owner or operator and the director must apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the director, a description of the test(s) and the method(s) used must be included. In making the evaluation, the director must review monitoring and other test data submitted since the previous evaluation.

(7) The director may require additional or alternative tests if the results presented by the owner or operator under Paragraphs (1) through (4) of this Subsection are not satisfactory to the director to demonstrate that there is no significant leak in the casing, tubing, or packer, or to demonstrate that there is no significant movement of fluid into a USDW resulting from the injection activity as stated in Subparagraphs (a) and (b) of Paragraph (1) of this Subsection.

K. Testing and monitoring requirements. The owner or operator of a Class VI well must prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic sequestration project is operating as permitted and is not endangering USDWs. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The testing and monitoring plan must be submitted with the permit application, for director approval, and must include a description of how the owner or operator will meet the requirements of this section, including accessing sites for all necessary monitoring and testing during the life of the project and the specific statistical test to be used for groundwater monitoring before collecting data. The statistical test for groundwater monitoring must include the number and kinds of samples collected to establish background appropriate for the form of statistical test employed, a sample size as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected, a statistical method appropriate for the distribution of chemical parameters or hazardous constituents, an accounting for data below the limit of detection with one more statistical procedures that are protective of human health and the environment, inclusion of procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data, and a determination of an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit. It must also include a summary of community engagement activities conducted to develop a plan that addresses project-related risks. Testing and monitoring associated with geologic sequestration projects must, at a minimum, include:

(1) analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;

(2) installation and use, except during well workovers as defined in Paragraph (4) of Subsection I of 19.15.43.9 NMAC, of continuous recording devices to monitor injection pressure, rate, and volume; the pressure on the annulus between the tubing and the long string casing; and the annulus fluid volume added;

(3) corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion, which must be performed on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in Paragraph (2) of Subsection G of 19.15.43.9 NMAC, by:

(a) analyzing coupons of the well construction materials placed in contact with the carbon dioxide stream; or

(b) routing the carbon dioxide stream through a loop constructed with the material used in the well and inspecting the materials in the loop; or

(c) using an alternative method approved by the director.

(4) Quarterly monitoring of the groundwater quality and geochemical changes above the confining zone(s) that may be a result of carbon dioxide movement through the confining zone(s) or additional identified zones including:

(a) the location and number of monitoring wells based on specific information about the geologic sequestration project, including injection rate and volume, geology, the presence of artificial penetrations, and other factors; and

(b) the monitoring frequency and spatial distribution of no fewer than four monitoring wells based on baseline geochemical data that has been collected under Subparagraph (f) of ~~Pararaph~~ Paragraph (1) of Subsection C of 19.15.43.9 NMAC, ~~and~~ on any modeling results in the area of review evaluation required by Paragraph (3) of Subsection E of 19.15.43.9 NMAC, a maximum-risk scenario simulation, and two simulations in which computational model grid spacing is increased and decreased by a factor of two. The monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under Section 40 CFR 144.12.

(5) A demonstration of external mechanical integrity pursuant to Paragraph (3) of Subsection J of 19.15.43.9 NMAC, adhering to the methods prescribed in Section 19.15.26.11 NMAC, at least once per year until the injection well is plugged; and, if required by the director, a casing inspection log pursuant to requirements at Paragraph (4) of Subsection J of 19.15.43.9 NMAC at a frequency established in the testing and monitoring plan;

(6) a pressure fall-off test at least once every five years unless more frequent testing is required by the Director based on site-specific information.

(7) Testing and continuous monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) and identification of excess pressure by calculating the absolute and excess pressure divided by hydrostatic pressure, by using:

(a) direct methods in the injection zone(s); and

(b) indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the director determines, based on site-specific geology, that such methods are not appropriate.

(8) Soil gas monitoring is required to detect movement of carbon dioxide that could endanger a USDW;

(9) ~~the director may require~~ surface air monitoring is required to detect movement of carbon dioxide that could endanger a USDW, including in oil and gas fields or other areas with a high density of legacy wellbores.

(a) Design of Class VI soil gas and surface air ~~(if required)~~ monitoring must be based on potential risks to USDWs within the area of review.

(b) The monitoring frequency and spatial distribution of soil gas and surface air monitoring ~~(if required)~~ must be based on baseline geochemical data that has been collected under Subparagraph (f) of Paragraph (1) of Subsection C of 19.15.43.9 NMAC and on any modeling results in the area of review evaluation required by Paragraph (3) of Subsection E of 19.15.43.9 NMAC. The monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under Subsection B of 19.15.42.9 NMAC.

(c) If an owner or operator demonstrates that monitoring employed under Section 40 CFR 98.440 to 98.449 (Clean Air Act, 42 U.S.C. 7401 et seq.) accomplishes the goals of paragraphs (9)(a) and (b) of this section, and meets the requirements pursuant to Subparagraph € of Paragraph (3) of Subsection L of 19.15.43.9 NMAC, a director that requires surface air/soil gas monitoring must approve the use of monitoring employed under Sections 40 CFR 98.440 to 98.449. Compliance with Section 40 CFR 98.440 to 98.449 pursuant to this provision is considered a condition of the Class VI permit;

(10) seismicity monitoring is required as part of the operational and post-injection monitoring requirements for all Class VI injection projects. The owner or operator must design and implement a site-specific seismic monitoring program capable of detecting and characterizing induced seismicity that may result from carbon dioxide injection activities. Responses to seismic events shall be conducted in accordance with protocols established by the oil conservation division.

(a) Design of Class VI seismicity monitoring program must be based on the potential risk of disturbing the confinement efficiency and endangering USDWs within the area of review.

(b) The owner or operator shall purchase a state-owned, distributed acoustic network of seismic sensors, the resulting data of which shall be owned by the state.

~~(b)~~(c) The spatial distribution of the monitoring network must be decided using baseline data and must incorporate the Seismic Hazard Assessment and other findings pursuant to Item (v) of Subparagraph (c) of Paragraph (1) of Subsection C of 19.15.43.9 NMAC to establish baseline microseismic activity.

(d) The seismic threshold metric must use Peak Ground Velocity, Peak Ground Acceleration, or other comparable metric approved by the director.

(11) Any additional monitoring, as required by the director, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under Paragraph (3) of Subsection E of 19.15.43.9 NMAC and to determine compliance with standards under Subsection B of 19.15.42.9 NMAC.

(12) The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under this Part, operational data collected under Subsection I of 19.15.43.9 NMAC, ~~and~~ the most recent area of review reevaluation performed under Paragraph (5) of Subsection E of 19.15.43.9 NMAC, and new EPA standards regarding material compatibility for well infrastructure. An initial review of the testing and monitoring plan shall occur two years after injection begins, and at no time may exceed four years. Based on this review, the owner or operator shall submit an amended testing and monitoring plan or demonstrate to the director that no amendment to the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan must be approved by the director, must be incorporated into the permit, and are subject to the permit modification requirements at Subsection H of 19.15.42.11 NMAC or Subsection J of 19.15.42.11 NMAC, as appropriate. Amended plans or demonstrations shall be submitted to the director as follows:

(a) within one year of an area of review reevaluation;

(b) following any significant changes to the facility, such as addition of monitoring wells or newly permitted injection wells within the area of review, on a schedule determined by the director; or

(c) when required by the director.

(13) A quality assurance and surveillance plan for all testing and monitoring requirements.

L. Reporting requirements. The owner or operator must, at a minimum, provide, as specified in Paragraph (5) of this Subsection, the following reports to the director and the EPA, for each permitted Class VI well:

(1) semi-annual reports containing:

(a) any changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data;

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

(c) a description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;

(d) a description of any event which triggers a shut-off device required pursuant to Paragraph (5) of Subsection I of 19.15.43.9 NMAC and the response taken;

(e) the monthly volume and mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;

(f) monthly annulus fluid volume added; and

(g) the results of monitoring prescribed under Subsection K of 19.15.43.9 NMAC.

(2) Report, within 30 days, the results of:

(a) periodic tests of mechanical integrity;

(b) gauge malfunction or instrumentation failure;

~~**(b)**~~**(c)** any well workover; and,

~~**(c)**~~**(d)** any other test of the injection well conducted by the permittee if required by the director.

(3) Report, within 24 hours:

(a) any evidence that the injected carbon dioxide stream or associated pressure front may cause an endangerment to a USDW;

(b) any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs;

(c) any triggering of a shut-off system (i.e., down-hole or at the surface);

(d) any failure to maintain mechanical integrity; or

(e) pursuant to compliance with the requirement at Paragraph (8) of Subsection K of 19.15.43.9 NMAC for surface air/soil gas monitoring or other monitoring technologies, if required by the director, any release of carbon dioxide to the atmosphere or biosphere.

(4) Owners or operators must notify the director in writing 30 days in advance of:

(a) any planned well workover;

(b) any planned stimulation activities, other than stimulation for formation testing conducted under Subsection C of 19.15.43.9 NMAC; and

(c) any other planned test of the injection well conducted by the permittee.

(5) Regardless of whether a state has primary enforcement responsibility, owners or operators must submit all required reports, submittals, and notifications under this Part to the director and EPA in an electronic format approved by EPA.

(6) Records shall be retained by the owner or operator as follows:

(a) All data collected under Subsection C of 19.15.43.9 NMAC for Class VI permit applications shall be retained throughout the life of the geologic sequestration project and for at least 10 years following site closure.

(b) Data on the nature and composition of all injected fluids collected pursuant to Paragraph (1) of Subsection K of 19.15.43.9 NMAC shall be retained for at least 10 years after site closure. The director may require the owner or operator to deliver the records to the director at the conclusion of the retention period.

(c) Monitoring data collected pursuant to Paragraphs (2)-(11) of Subsection K of 19.15.43.9 NMAC shall be retained for at least 10 years after it is collected.

(d) Well plugging reports, post-injection site care data, including, if appropriate, data and information used to develop the demonstration of the alternative post-injection site care timeframe, and the site closure report collected pursuant to requirements at Paragraphs (6) and (8) of Subsection N of 19.15.43.9 NMAC shall be retained for at least 10 years following site closure.

(e) The director has authority to require the owner or operator to retain any records required by these regulations for longer than 10 years after site closure.

M. Injection well plugging.

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

(2) Well plugging plan. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan that is acceptable to the director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application, must be designed to prevent the migration of fluid into or between USDWs or outside of the injection zone, and must include the following information:

(a) appropriate tests or measures for determining bottom-hole reservoir pressure;

(b) appropriate testing methods to ensure external mechanical integrity as specified in Subsection J of 19.15.43.9 NMAC;

(c) a detailed description of the size and quantity of casing, tubing, and any other well construction materials proposed for removal prior to well closure;

(d) the type and number of plugs to be used;

(e) the placement of each plug, including the elevation of the top and bottom of each plug;

(f) the type, grade, and quantity of material, such as cement, to be used in plugging. The material must be compatible with the carbon dioxide stream;

(g) the method of placement of the plugs;

(h) pre-closure and post-closure well schematics; and

(i) any additional information requested by the director.

(j) Upon successful completion of well closure, the owner or operator shall comply with Section 19.15.25.10 NMAC to properly abandon the well and location.

(3) Notice of intent to plug. The owner or operator must notify the director in writing pursuant to Paragraph (5) of Subsection L of 19.15.43.9 NMAC, at least 60 days before plugging of a well. If any modifications have been made to the approved well plugging plan at the time of this notice, a revised plan must be submitted for review. The director may authorize a shorter advance notice period, if warranted. In addition to this notice, the owner or operator must also provide a minimum of 24 hours of notice to the director prior to commencing physical plugging operations. Any amendments to the well plugging plan must be approved by the director, incorporated into the permit, and processed in accordance with the applicable permit modification requirements at Subsection H of 19.15.42.11 NMAC or Subsection J of 19.15.42.11 NMAC.

(4) Well plugging report. Within 30 days after well plugging and abandonment, the owner or operator must submit, pursuant to Paragraph (4) of Subsection M of 19.15.43.9 NMAC, a well plugging report to the director. The report must be certified as accurate by the owner or operator and by the person who performed the well and location inspection pursuant to Subsection F of 19.15.25.10 NMAC. The owner or operator shall retain the well plugging report for 10 years following site closure. The report shall contain the following information:

(a) a detailed description of the site closure procedures, clearly identifying any deviations from the submitted plan during the closure process;

(b) all state regulatory reporting forms and correspondence related to site closure; and

(c) any relevant information related to closure activities including well schematics, monitoring data, and mechanical integrity test results.

N. Post-injection site care and site closure.

(1) The owner or operator of a Class VI well must prepare, maintain, and comply with a plan for post-injection site care and site closure that meets the requirements of Subparagraph (b) of Paragraph (1) of this Subsection and is acceptable to the director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

(a) The owner or operator must submit the post-injection site care and site closure plan as a part of the permit application to be approved by the director.

(b) The post-injection site care and site closure plan must include the following information:

(i) the pressure differential between pre-injection and predicted post-injection pressures in the injection zone(s);

(ii) the predicted position of the carbon dioxide plume and associated pressure front at site closure as demonstrated in the area of review evaluation required under Subparagraph (a) of Paragraph (3) of Subsection E of 19.15.43.9 NMAC;

(iii) a description of post-injection monitoring location, methods, and proposed frequency;

(iv) a proposed schedule for submitting post-injection site care monitoring results to the director pursuant to Paragraph (5) of Subsection L of 19.15.43.9 NMAC; and

(v) the duration of the post-injection site care timeframe and, if approved by the director, the demonstration of the alternative post-injection site care timeframe that ensures non-endangerment of USDWs.

(c) Upon cessation of injection, owners or operators of Class VI wells must either submit an amended post-injection site care and site closure plan or demonstrate to the director through monitoring data and modeling results that no amendment to the plan is needed. Any amendments to the post-injection site care and site closure plan must be approved by the director, be incorporated into the permit, and are subject to the permit modification requirements at Subsection H or J of 19.15.42.11 NMAC.

(d) At any time during the life of the geologic sequestration project, the owner or operator may modify and resubmit the post-injection site care and site closure plan for the director's approval within 30 days of such change.

(2) The owner or operator shall monitor the site following the cessation of injection to show the position of the carbon dioxide plume and pressure front and demonstrate that USDWs are not being endangered.

(a) Following the cessation of injection, the owner or operator shall continue to conduct monitoring as specified in the director-approved post-injection site care and site closure plan for at least 50 years or for the duration of the alternative timeframe approved by the director pursuant to requirements in Paragraph (3) of this subsection, unless the owner or operator makes a demonstration under Subparagraph (b) of Paragraph (2) of this Subsection. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under Subparagraph (b) of Paragraph (2) of this subsection is submitted and approved by the director.

(b) If the owner or operator can demonstrate to the satisfaction of the director before 50 years or prior to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the geologic sequestration project no longer poses an endangerment to USDWs, the director may approve an amendment to the post-injection site care and site closure plan to reduce the frequency of monitoring or may authorize site closure before the end of the 50-year period or prior to the end of the approved alternative timeframe, where he or she has substantial evidence that the geologic sequestration project no longer poses a risk of endangerment to USDWs.

(c) Prior to authorization for site closure, the owner or operator must submit to the Director for review and approval a demonstration, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs.

(d) If the demonstration in Subparagraph (c) of Paragraph (2) of this subsection cannot be made (i.e., additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs) at the end of the 50-year period or at the end of the approved alternative timeframe, or if the director does not approve the demonstration, the owner or operator must submit to the director a plan to continue post-injection site care until a demonstration can be made and approved by the director.

(3) **Demonstration of alternative post-injection site care timeframe.** The director may approve, in consultation with EPA, an alternative post-injection site care timeframe other than the 50 year default, if an owner or operator can demonstrate ~~during the permitting process~~ after injection operations cease that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to Subsections C and D of 19.15.43.9, and must contain substantial evidence that the geologic sequestration project will no longer pose a risk of endangerment to USDWs at the end of the alternative post-injection site care timeframe.

(a) A demonstration of an alternative post-injection site care timeframe must include consideration and documentation of:

(i) the results of computational modeling performed pursuant to delineation of the area of review under Subsection E of 19.15.43.9 NMAC;

(ii) the predicted timeframe for pressure decline within the injection zone, and any other zones, such that formation fluids may not be forced into any USDWs; and the timeframe for pressure decline to pre-injection pressures;

(iii) the predicted rate of carbon dioxide plume migration within the injection zone, and the predicted timeframe for the cessation of migration;

(iv) a description of the site-specific processes that will result in carbon dioxide trapping including immobilization by capillary trapping, dissolution, and mineralization at the site;

(v) the predicted rate of carbon dioxide trapping in the immobile capillary phase, dissolved phase, and mineral phase;

(vi) the results of laboratory analyses, research studies, and field or site-specific studies to verify the information required in Items (iv) and (v) of this Subparagraph;

(vii) a characterization of the confining zone(s) including a demonstration that it is free of transmissive faults, fractures, and micro-fractures and of appropriate thickness, permeability, and integrity to impede fluid (e.g., carbon dioxide, formation fluids) movement;

(viii) the presence of potential conduits for fluid movement including planned injection wells and project monitoring wells associated with the proposed geologic sequestration project or any other projects in proximity to the predicted/modeled, final extent of the carbon dioxide plume and area of elevated pressure;

(ix) a description of the well construction and an assessment of the quality of plugs of all abandoned wells within the area of review;

(x) the distance between the injection zone and the nearest USDWs above or below the injection zone; and

(xi) any additional site-specific factors required by the director.

(b) Information submitted to support the demonstration in Subparagraph (a) of Paragraph (3) of this Subsection must meet the following criteria:

(i) all analyses and tests performed to support the demonstration must be accurate, reproducible, and performed in accordance with the established quality assurance standards;

(ii) estimation techniques must be appropriate and EPA-certified test protocols must be used where available;

(iii) predictive models must be appropriate and tailored to the site conditions, composition of the carbon dioxide stream and injection and site conditions over the life of the geologic sequestration project;

(iv) predictive models must be calibrated using existing information (e.g., at Class I, Class II, or Class V experimental technology well sites) where sufficient data are available;

(v) reasonably conservative values and modeling assumptions must be used and disclosed to the director whenever values are estimated on the basis of known, historical information instead of site-specific measurements;

(vi) an analysis must be performed to identify and assess aspects of the alternative post-injection site care timeframe demonstration that contribute significantly to uncertainty. The owner or operator must conduct sensitivity analyses to determine the effect that significant uncertainty may contribute to the modeling demonstration.

(vii) an approved quality assurance and quality control plan must address all aspects of the demonstration; and,

(viii) any additional criteria required by the director.

(4) Notice of intent for site closure. The owner or operator must notify the director in writing at least 120 days before site closure. At this time, if any changes have been made to the original post-injection site care and site closure plan, the owner or operator must also provide the revised plan. The director may allow for a shorter notice period.

(5) After the director has authorized site closure, the owner or operator must plug all monitoring wells in a manner which will not allow movement of injection or formation fluids that endangers a USDW.

(6) The owner or operator must submit a site closure report to the director within 90 days of site closure, which must thereafter be retained at a location designated by the director for 10 years. The report must include:

(a) documentation of appropriate injection and monitoring well plugging as specified in Subsection M of 19.15.43.9 NMAC and Paragraph (5) of this Subsection. The owner or operator must provide a copy of a survey plat which has been submitted to the local zoning authority designated by the director. The plat must indicate the location of the injection well relative to permanently surveyed benchmarks. The owner or operator must also submit a copy of the plat to the appropriate EPA Regional Office per Subsection M of 19.15.43.9 NMAC;

(b) documentation of appropriate notification and information to such State, local and tribal authorities that have authority over drilling activities to enable such state, local, and tribal authorities to impose appropriate conditions on subsequent drilling activities that may penetrate the injection and confining zone(s); and

(c) records reflecting the nature, composition, and volume of the carbon dioxide stream.

(7) Each owner or operator of a Class VI injection well must record a notation on the deed to the facility property or any other document that is normally examined during title search that will in perpetuity provide any potential purchaser of the property the following information:

(a) the fact that land has been used to sequester carbon dioxide;

(b) the name of each State agency, local authority, or tribe with which the survey plat was filed, as well as the address of the EPA Regional Office to which it was submitted; and

(c) the volume of fluid injected, the injection zone or zones into which it was injected, and the period over which injection occurred.

(8) The owner or operator must retain for 10 years following site closure, records collected during the post-injection site care period. The owner or operator must deliver the records to the director at the conclusion of the retention period, and the records must thereafter be retained at a location designated by the director for that purpose.

O. Emergency and remedial response.

(1) As part of the permit application, the owner or operator must provide the director with an emergency and remedial response plan that describes actions the owner or operator must take to address movement of the injection or formation fluids that may cause an endangerment to a USDW during construction, operation, and post-injection site care periods. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

(2) The owner or operator must conduct outreach with communities located within the AoR during development of the emergency and remedial response plan. This outreach must identify the chain of command for notifying the public in the event of an emergency and incorporate this information into the plan, and to develop protocols for notifying the public about well-related issues and emergencies, taking into account local language needs and the needs of persons with disabilities. The emergency and remedial response plan must describe how the owner or operator will provide training for local emergency responders, include a summary of community outreach activities conducted prior to the plan's submittal, and explain how community outreach will be maintained throughout the life of the project.

(3) The owner or operator must have at least one employee on the premises or otherwise available at all times with the authority to carry out the emergency and remedial response plan.

~~(3)~~**(4)** If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, a significant seismic event has occurred, a statistically significant geochemical change is detected above the confining zone, a release of carbon dioxide is detected by surface air monitoring, fluid has migrated into an unauthorized zone, or a gauge has malfunctioned for longer than one week, the owner or operator must:

(a) immediately cease injection;

(b) take all steps reasonably necessary to identify and characterize any release, migration, or malfunction;

(c) notify the director within 24 hours; and

(d) implement the emergency and remedial response plan approved by the director.

~~(4)~~**(5)** The director may allow the operator to resume injection prior to remediation if the owner or operator demonstrates that the injection operation will not endanger USDWs.

~~(5)~~**(6)** The owner or operator shall periodically review the emergency and remedial response plan developed under Paragraph (1) of this Subsection at least once every three years. Based on this review, the owner or operator shall submit an amended emergency and remedial response plan or demonstrate to the director that no amendment to the emergency and remedial response plan is needed. Any amendments to the emergency and remedial response plan must be approved by the director, must be incorporated into the permit, and are subject to the permit modification requirements at Subsection H or J of 19.15.42.11 NMAC, as appropriate. Amended plans or demonstrations shall be submitted to the director as follows:

(a) within one year of an area of review reevaluation;

(b) following any significant changes to the facility, such as addition of injection or monitoring wells, on a schedule determined by the director; or

(c) when required by the director.

P. Class VI injection depth waiver requirements. This section sets forth information which an owner or operator seeking a waiver of the Class VI injection depth requirements must submit to the director; information the director must consider in consultation with all affected Public Water System Supervision Directors; the procedure for director—Regional Administrator communication and waiver issuance; and the additional requirements that apply to owners or operators of Class VI wells granted a waiver of the injection depth requirements.

(1) In seeking a waiver of the requirement to inject below the lowermost USDW, the owner or operator must submit a supplemental report concurrent with permit application. The supplemental report must include the following:

(a) a demonstration that the injection zone(s) is/are laterally continuous, is not a USDW, and is not hydraulically connected to USDWs; does not outcrop; has adequate injectivity, volume, and sufficient porosity to safely contain the injected carbon dioxide and formation fluids; and has appropriate geochemistry.

(b) a demonstration that the injection zone(s) is/are bounded by laterally continuous, impermeable confining units above and below the injection zone(s) adequate to prevent fluid movement and pressure buildup outside of the injection zone(s); and that the confining unit(s) is/are free of transmissive faults and fractures. The report shall further characterize the regional fracture properties and contain a demonstration that such fractures will not interfere with injection, serve as conduits, or endanger USDWs.

(c) a demonstration, using computational modeling, that USDWs above and below the injection zone will not be endangered as a result of fluid movement. This modeling should be conducted in conjunction with the area of review determination, as described in Subsection E of 19.15.43.9 NMAC, and is subject to requirements, as described in Paragraph (3) of Subsection E of 19.15.43.9 NMAC, and periodic reevaluation, as described in Paragraph (5) of Subsection E of 19.15.43.9 NMAC.

(d) A demonstration that well design and construction, in conjunction with the waiver, will ensure isolation of the injectate in lieu of requirements at Subparagraph (a) of Paragraph (1) of Subsection G of 19.15.43.9 NMAC and will meet well construction requirements in Paragraph (6) of this Subsection.

(e) A description of how the monitoring and testing and any additional plans will be tailored to the geologic sequestration project to ensure protection of USDWs above and below the injection zone(s), if a waiver is granted.Information on the location of all the public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review.

(f) Any other information requested by the director to inform the Regional Administrator's decision to issue a waiver.

(2) To inform the Regional Administrator's decision on whether to grant a waiver of the injection depth requirements at Sections 40 CFR 144.6, 40 CFR 146.5(f), and Subparagraph (a) of Paragraph (1) of Subsection G of 19.15.43.9 NMAC, the director must submit, to the Regional Administrator, documentation of the following:

(a) an evaluation of the following information as it relates to siting, construction, and operation of a geologic sequestration project with a waiver:

(i) the integrity of the upper and lower confining units;

(ii) the suitability of the injection zone(s) (e.g., lateral continuity; lack of transmissive faults and fractures; knowledge of current or planned artificial penetrations into the injection zone(s) or formations below the injection zone);

(iii) the potential capacity of the geologic formation(s) to sequester carbon dioxide, accounting for the availability of alternative injection sites;

(iv) all other site characterization data, the proposed emergency and remedial response plan, and a demonstration of financial responsibility;

(v) community needs, demands, and supply from drinking water resources;

(vi) planned needs, potential and/or future use of USDWs and non- USDWs in the area;

(vii) planned or permitted water, hydrocarbon, or mineral resource exploitation potential of the proposed injection formation(s) and other formations both above and below the injection zone to determine if there are any plans to drill through the formation to access resources in or beneath the proposed injection zone(s)/formation(s);

(viii) the proposed plan for securing alternative resources or treating USDW formation waters in the event of contamination related to the Class VI injection activity; and

(ix) any other applicable considerations or information requested by the director.

(b) Consultation with the public water system supervision directors of all states and tribes having jurisdiction over lands within the area of review of a well for which a waiver is sought.

(b) Consultation with the state engineer.

(c) Any written waiver-related information submitted by the public water system supervision director(s) to the (UIC) director.

(3) Pursuant to requirements at Subsection E of 19.15.41.8 NMAC and concurrent with the Class VI permit application notice process, the director shall give public notice that a waiver application has been submitted. The notice shall clearly state:

(a) the depth of the proposed injection zone(s);

(b) the location of the injection well(s);

(c) the name and depth of all USDWs within the area of review;

(d) a map of the area of review;

(e) the names of any public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review; and

(f) the results of UIC-Public Water System Supervision consultation required under Subparagraph (b) of Paragraph (2) of this Subsection.

(4) Following public notice, the director shall provide all information received through the waiver application process to the regional administrator. Based on the information provided, the regional administrator shall provide written concurrence or non-concurrence regarding waiver issuance.

(a) If the regional administrator determines that additional information is required to support a decision, the director shall provide the information. At his or her discretion, the regional administrator may require that public notice of the new information be initiated.

(b) In no case shall a director of a state-approved program issue a waiver without receipt of written concurrence from the regional administrator.

(5) If a waiver is issued, within 30 days of waiver issuance, EPA shall post the following information on the Office of Water's Web site:

(a) the depth of the proposed injection zone(s);

(b) the location of the injection well(s);

(c) the name and depth of all USDWs within the area of review;

(d) a map of the area of review;

(e) the names of any public water supplies affected, reasonably likely to be affected, or served by USDWs in the area of review; and

(f) the date of waiver issuance.

(6) Upon receipt of a waiver of the requirement to inject below the lowermost USDW for geologic sequestration, the owner or operator of the Class VI well must comply with:

(a) All requirements at Subsections E, F, H, I, J, L, M, and O of 19.15.43.9 NMAC;

(b) All requirements at Subsection G of 19.15.43.9 NMAC with the following modified requirements:

(i) The owner or operator must ensure that Class VI wells with a waiver are constructed and completed to prevent movement of fluids into any unauthorized zones including USDWs, in lieu of requirements at Subparagraph (a) of Paragraph (1) of Subsection G of 19.15.43.9 NMAC.

(ii) The casing and cementing program must be designed to prevent the movement of fluids into any unauthorized zones including USDWs in lieu of requirements at Subparagraph (a) of Paragraph (2) of Subsection G of 19.15.43.9.G NMAC.

(iii) The surface casing must extend through the base of the nearest USDW directly above the injection zone and be cemented to the surface; or, at the director's discretion, another formation above the injection zone and below the nearest USDW above the injection zone.

(c) All requirements at Subsection K of 19.15.43.9 NMAC with the following modified requirements:

(i) The owner or operator shall monitor the groundwater quality, geochemical changes, and pressure in the first USDWs immediately above and below the injection zone(s); and in any other formations at the discretion of the director.

(ii) Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using direct methods to monitor for pressure changes in the injection zone(s); and, indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the director determines, based on site-specific geology, that such methods are not appropriate.

(d) All requirements at Subsection N of 19.15.43.9 NMAC with the following, modified post-injection site care monitoring requirements:

(i) The owner or operator shall monitor the groundwater quality, geochemical changes and pressure in the first USDWs immediately above and below the injection zone; and in any other formations at the discretion of the director.

(ii) Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using direct methods in the injection zone(s); and indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and down-hole carbon dioxide detection tools), unless the director determines based on site-specific geology, that such methods are not appropriate.

(e) Any additional requirements requested by the director designed to ensure protection of USDWs above and below the injection zone(s).

[19.15.43.9 NMAC – N, XX/XX/XXXX]

History of 19.15.43 NMAC: [RESERVED]