STATE OF NEW MEXICO
NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF OIL CONSERVATION DIVISION TO ADOPT 19.15.41, 19.15.42, and 19.15.43 NMAC; STATEWIDE

CASE NO. 25875

APPLICATION OF OIL CONSERVATION DIVISION TO ADOPT 19.15.41 NMAC, 19.15.42 NMAC, 19.15.43 NMAC

The Energy, Minerals, and Natural Resources Department, Oil Conservation Division ("OCD") applies to the New Mexico Oil Conservation Commission ("Commission") to hold a public hearing to consider and adopt rules for underground injection of carbon dioxide for geologic sequestration, consistent with the Class VI Underground Injection Control ("UIC") program and rules under the federal Safe Drinking Water Act.

The proposed new rules are *19.15.41 NMAC—Procedures for Decision Making, 19.15.42 NMAC—Underground Injection Control Program,* and *19.15.43 NMAC—Underground Injection Control Program: Criteria and Standards*.

In accordance with 19.15.3.8.A NMAC, Applicant provides the following information:

I. Brief Summary of Proposed Rule's Intended Effect

1. The Proposed Rules are intended to establish the regulatory framework necessary for the State through the Oil Conservation Division ("OCD") and the Energy, Minerals, and Natural Resources Department ("EMNRD") to obtain primacy for the Class VI Underground Injection Control ("UIC") program. Currently, this permit program is administered in New Mexico by the U.S. Environmental Protection Agency ("EPA"). Upon EPA's approval, the State would assume primary responsibility for the permitting, compliance, and enforcement of Class VI wells used for the geologic sequestration of carbon dioxide.

2. To help develop and efficiently deploy carbon capture sequestration ("CCS") technologies, EMNRD has partnered with New Mexico Institute of Mining and Technology ("New Mexico Tech") to pursue primacy. The Proposed Rule represents a culmination of collaboration between EMNRD, the U.S. Environmental Protection Agency ("EPA"), New Mexico Tech, and public outreach. Currently, EPA takes 3 - 6 years to review Class VI permits. If granted primacy, EMNRD would target a review timeline for these applications of 6 – 8 months, accelerating critical actions and bringing the State closer to achieving its waste mitigation and climate goals.

3. Federal regulations require that a state Class VI program be at least as stringent as the federal program. The Proposed Rule is designed to incorporate federal rule provisions to maximize consistency with the federal rules governing the existing permit program, with additional New Mexico-specific program components.

4. In advance of the formal public hearing process through the Oil Conservation Commission, EMNRD/OCD has conducted a voluntary community engagement process to notify the public of the development of the proposed rules. In alignment with the EPA Class VI primacy guidelines, a comprehensive stakeholder outreach and engagement program was implemented. The objective was to ensure transparency and gather input from stakeholders with an interest in the proposed Class VI regulations. Engagement activities included direct discussions with legislators, state regulatory agencies, and non-governmental organizations ("NGOs") prior to drafting the proposed rules. Informational sessions and workshops were also held at academic institutions across regions relevant to potential Class VI activities, including the Permian and San Juan Basins. The sessions were also publicly available for virtual attendance. Once drafted, the regulations were posted to the Oil Conservation Division ("OCD") website and public comments were solicited.

5. Several commenters recommended that New Mexico strengthen public participation provisions in its proposed Class VI rules, including expanding notice and input opportunities during key regulatory stages such as permitting, enforcement, and Class II-to-Class VI conversions, as well as improving community outreach and accessibility, including multilingual engagement. Other technical and procedural comments focused on clarifying permit modification criteria, seismic monitoring thresholds, and conversion standards between Class II and Class VI wells. The Proposed Rules takes into consideration all public comments, reflecting stakeholder and public recommendations.

6. Finally, it should be noted that New Mexico already has primacy of the Class I–V UIC programs, which are administered through either the New Mexico Environment Department or the Oil Conservation Division. Thus, gaining primacy over the Class VI program would further streamline and unify underground injection control under state oversight, ensuring regulatory consistency across all well classes. Furthermore, primacy would enable New Mexico to tailor its Class VI permitting framework to local priorities - such as water protection, seismic risk management, and equitable community engagement - while maintaining compliance with federal standards. It would also provide a clear permitting process for developers, encouraging responsible carbon management and economic development within the state. In short, Class VI primacy is a natural and strategic evolution of New Mexico's UIC program that enhances both regulatory efficiency and environmental stewardship.

II. Proposed Legal Notice

7. A proposed legal notice for publication for the rulemaking hearing that meets the requirements of 19.15.3.9.B NMAC, once updated by Commission staff, is attached as Applicants Exhibit 1.

III. Draft of Proposed Rule

8. Drafts of the proposed rules are attached as Applicants Exhibit 2A, 19.15.41 NMAC; Exhibit 2B, 19.15.42 NMAC; and Exhibit 2C, 19.15.43 NMAC.

IV. Applicant's Requests

9. OCD requests that the Commission set a special hearing on the proposed rule at the next available date.

10. Pursuant to 19.15.3.8(C) NMAC, and in addition to the requirements of 19.15, 3.11(B)(2) NMAC, OCD requests that the Commission issue an order appointing a hearing officer to conduct the hearing in this matter, and that the hearing officer shall:

a. establish a deadline for pre-hearing motions;

b. hold a pre-hearing conference to decide procedural matters and non-dispositive pre-hearing motions before the hearing;

c. schedule a meeting to hear and decide dispositive motions, if any, before the hearing;

d. require persons to file pre-hearing statements no later than 10 business days before the scheduled hearing date;

e. authorize a party, after it presents each witness individual for direct examination, to present its witnesses as a panel for the purpose of cross-examination;

f. take such other actions as may be authorized by 19.15.3.8(C) NMAC; and

g. assist the commission with the conduct of the hearing in accordance with 19.15.3.12 NMAC.

Respectfully submitted,

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EXHIBIT 1

[PROPOSED] NOTICE OF PUBLIC HEARING

The New Mexico Oil Conservation Commission (Commission) hereby gives notice that the Commission will hold a public hearing to consider proposed adoption of Commission rules at _____ NMAC. New Mexico Energy, Minerals, and Mining Department proposes the rules. The public hearing will held in-person, online, and by telephone commencing [date] at 9:00 am and continuing each weekday thereafter as necessary.

Purpose of Proposed Rule. The purpose of the proposed rule is to establish the regulatory framework necessary for the State to obtain primacy for the Class VI Underground Injection Control (UIC) program from the U.S. Environmental Protection Agency (EPA). Upon approval, the State would assume primary responsibility for the permitting, compliance, and enforcement of Class VI wells used for the geologic sequestration of carbon dioxide.

Summary of Proposed Rule. The proposed rule would establish the regulatory framework necessary for the State through the New Mexico Oil Conservation Division ("OCD") and the New Mexico Energy, Minerals, and Natural Resources Department ("EMNRD") to obtain primacy for the Class VI Underground Injection Control ("UIC") program from the U.S. Environmental Protection Agency ("EPA"). The proposed rule substantially reflects the content of the existing federal analog, with sections that increase stringency to meet the specific needs and experience in New Mexico. Upon approval, the State would assume primary responsibility for the permitting, compliance, and enforcement of Class VI wells used for the geologic sequestration of carbon dioxide.

Legal Authority. The proposed rule is authorized by the Geologic Carbon Dioxide Storage Stewardship Act NMSA 1978, Sections 74-14-1 through 74-14-7 and the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38, including Section 70-2-6 (authorizing Commission to exercise jurisdiction, authority, and control over all persons, matters, and things necessary or proper to enforce the statute), Section 70-2-11 (authorizing OCD to make and enforce rules, regulations and orders), and Section 70-2-12 (enumerating powers of Commission and Oil Conservation Division (OCD)). The public hearing is governed by the Commission's rule on rulemaking proceedings at 19.15.3 NMAC.

Availability of Proposed Rule. The full text of the proposed rule is available on OCD's website at http://www.emnrd.state.nm.us/OCD/rules.html or may be obtained from Commission Clerk Sheila Apodaca at occ.hearings@emnrd.nm.gov.
Additionally, all technical documents and information that served as a basis for the proposed rule are available at OCD's website at _____. The federal criteria and standards applicable to Class VI Wells can be found at 40 CFR Part 146, Subpart H, and 75 FR 77230 (2010). Related records can be found at 73 FR 43492 (2008), 73 FR 50740 (2008), 73 FR 70610 (2008) and 74 CFR 44802 (2009).

Written Comments. Any person may submit written comments on the proposed amendments no

later than 5:00 pm on [date], unless extended by the Commission, by mail or delivery to Sheila Apodaca, Commission Clerk, Wendell Chino Building, 1220 S. St. Francis Dr., Santa Fe, NM 87505, or by email to the Commission Clerk at occ.hearings@emnrd.nm.gov.

Public Hearing. The public hearing will be held in-person, online, and by telephone commencing on [date] at 9:00 am and continuing each weekday thereafter as necessary. The hearing will be held in Pecos Hall on the first floor in the Wendell Chino Building at the address above. For information how to participate in the hearing, please contact the Commission Clerk at occ.hearings@emnrd.nm.gov or 505-699-8358, or visit the Hearings page on OCD's website at http://www.emnrd.state.nm.us/OCD/hearings.html. Public comment will be accepted each day of the hearing beginning at 9:00 am and at 4:00 pm.

Proposed Modifications, Technical Testimony, and Cross-Examination. Any person intending to propose a modification to the proposed amendments, to present technical testimony at the hearing, or to cross-examine witnesses must file a Pre-hearing Statement conforming to the requirements of 19.15.3.11.B NMAC, except that instead of filing a concise statement of each witness's testimony as required by 19.15.3.11.B(2) NMAC, the person shall file each witness's full testimony. Full direct testimony and exhibits shall be filed no later than 5:00 pm on [date]. Full rebuttal testimony and exhibits shall be filed no later than 5:00 pm on [date]. Filing may be accomplished by mail or delivery to Sheila Apodaca, Commission Clerk, Wendell Chino Building, 1220 S. St. Francis Dr., Santa Fe, NM 87505, or by email to the Commission Clerk at occ.hearings@emnrd.nm.gov. Any person who presents technical testimony will be subject to cross-examination by the members of the Commission, the Commission's counsel, or another person who filed a Pre-hearing Statement.

Oral Comments. Any person who did not file a Pre-hearing Statement may present non-technical testimony or make an unsworn statement at the hearing and may offer exhibits at the hearing so long as the exhibits are relevant to the proposed rule and do not unduly repeat testimony. Any person who presents sworn, non-technical testimony will be subject to cross-examination by the Commission, the Commission's counsel, or another person who has filed a Pre-hearing Statement.

Persons with Disabilities. If you are an individual with a disability who needs a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, including a summary or other accessible form of document, please contact the Commission Clerk at occ.hearings@emnrd.nm.gov or 505-699-8358 or through the New Mexico Relay Network at 1-800-659-1779, no later than 5:00 pm on [date]

Technical Information. Technical information that may be provided through Pre-hearing Statements and written technical testimony will be made publicly available on the OCD Imaging, Case File Search portal on OCD's website at http://ocdimage.emnrd.state.nm.us/imaging/CaseFileCriteria.aspx, and may be accessed by searching for Case File No. _____.

EXHIBIT 2A

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

[NEW MATERIAL]

19.15.41.1 ISSUING AGENCY: Oil Conservation Commission.

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.

19.15.41.3 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.

19.15.41.4 DURATION: Permanent.

19.15.41.5 EFFECTIVE DATE: [RESERVED].

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.

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

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

B. *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.

C. *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.

D. *Area of review* means the area surrounding an injection well described according to the criteria set forth in § 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 § 40 CFR 146.06.

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

F. *Contaminant* means any physical, chemical, biological, or radiological substance or matter in water.

G. *Director* means the director of the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division.

H. *Draft permit* means a document prepared under § 19.15.41.8.B 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 § 19.15.41.8.A NMAC are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in § 19.15.41.8.A NMAC is not a "draft permit."

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

J. *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.

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

L. *Emergency permit* means a UIC "permit" issued in accordance with § 40 CFR 144.34.

M. *Environmental Protection Agency* ("EPA") means the United States Environmental Protection Agency.

N. *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 § 19.15.42.8.D NMAC.

O. *Existing injection* well means an "injection well" other than a "new injection well."

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

Q. *Fluid* means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

R. *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.

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

T. *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 (§ 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 (§ 19.15 NMAC).

U. *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.

V. *Groundwater* means water below the land surface in a zone of saturation.

W. *Hazardous waste* means a hazardous waste as defined in § 40 CFR 261.3.

X. *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).

Y. *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.

Z. *Indian lands* means "Indian country" as defined in § 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.

AA. *Indian Tribe* means any Indian Tribe having a federally recognized governing body carrying out substantial governmental duties and powers over a defined area.

BB. *Injection well* means a "well" into which "fluids" are being injected.

CC. *Injection zone* means a geological "formation" group of formations, or part of a formation receiving fluids through a "well."

DD. *Major facility* means any UIC "facility or activity" classified as such by the Director, in conjunction with the EPA Regional Administrator.

EE. *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 § 20.4.1.500 NMAC (incorporating 40 CFR Part 2362).

FF. *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.

GG. *Owner or operator* means the owner or operator of any "facility or activity" subject to regulation under the UIC program.

HH. *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."

II. *Person* means an individual, association, partnership, corporation, municipality, state, federal, or tribal agency, or an agency or employee thereof.

JJ. *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.

KK. *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.

LL. *Project* means a group of wells in a single operation.

MM. *Radioactive Waste* means any waste which contains radioactive material in concentrations which exceed those listed in § 10 CFR 20, Appendix B, Table II, column 2.

NN. *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. 95–3609, Pub. L. 96–510, 42 U.S.C. 6901 et seq.).

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

PP. *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.

QQ. *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.

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

SS. *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.

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

UU. *Transferee* means the owner or operator receiving ownership and/or operational control of the well.

VV. *Transferor* means the owner or operator transferring ownership and/or operational control of the well.

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

XX. *Underground injection* means a "well injection."

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

(1) Which supplies any public water system; or

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

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

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

(c) Which is not an exempted aquifer.

ZZ. *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.

AAA. *Well injection* means the subsurface emplacement of fluids through a well.

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 § 20.6.2.5.6.2 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 § 19.15.42.11.A NMAC.

(3) Permit applications must comply with the signature and certification requirements of § 19.15.42.11.B 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 § 19.15.42.11.H NMAC or § 19.15.42.11.I NMAC and § 19.15.42.11.J 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, he or she shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings.

(3) If the Director tentatively decides to modify or revoke and reissue a permit under § 19.15.42.11.H NMAC, he or she shall prepare a draft permit under § 19.15.41.8.C 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 § 19.15.42.11.J NMAC are not subject to the requirements of this section.

(6) If the Director tentatively decides to terminate a permit under § 19.15.42.11.I 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 § 19.15.41.8.C 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 § 19.15.42.12.A NMAC

(b) All compliance schedules under § 19.15.42.12.C NMAC

(c) All monitoring requirements under § 19.15.42.12.D NMAC and

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

(3) Draft permits prepared by a State shall be accompanied by a fact sheet if required under § 19.15.41.8.D 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) 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 § 19.15.41.8.E 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.

(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 draft permit has been prepared under § 19.15.41.8.C(2) NMAC;

(b) A hearing has been scheduled under § 19.15.41.8.G NMAC;

(c) 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 § 19.15.41.8.B(2) 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 section 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 paragraph (1)(a) of this section 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 § 19.15.41.8.F NMAC and § 19.15.41.8.G 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 section, the public notice of a hearing under § 19.15.41.8.G 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;

(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 section, all persons identified in paragraph (5)(a) of this section shall be mailed a copy of the fact sheet, the permit application (if any), and the draft permit (if any).

F. *Public comments and requests for public hearings.* During the public comment period provided under § 19.15.41.8.E 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 § 19.15.41.8.I 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 § 19.15.41.8.E 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 § 19.15.41.8.E 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 § 19.15.41.8.E 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 § 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.

EXHIBIT 2B

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

[NEW MATERIAL]

19.15.42.1 ISSUING AGENCY: Oil Conservation Commission.

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.

19.15.42.3 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.

19.15.42.4 DURATION: Permanent.

19.15.42.5 EFFECTIVE DATE: [RESERVED].

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.

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

A. *Administrator* means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

B. *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.

C. *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.

D. *Area of review* means the area surrounding an injection well described according to the criteria set forth in § 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 § 40 CFR 146.06.

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

F. *Contaminant* means any physical, chemical, biological, or radiological substance or matter in water.

G. *Director* means the director of the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division.

H. *Draft permit* means a document prepared under § 19.15.41.8.C 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 § 19.15.41.8.B NMAC are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in § 19.15.41.8.B NMAC is not a "draft permit."

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

J. *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.

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

L. *Emergency permit* means a UIC "permit" issued in accordance with § 40 CFR 144.34.

M. *Environmental Protection Agency* ("EPA") means the United States Environmental Protection Agency.

N. *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 § 19.15.42.8.D NMAC.

O. *Existing injection* well means an "injection well" other than a "new injection well."

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

Q. *Fluid* means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

R. *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.

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

T. *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 (§ 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 (§ 19.15 NMAC).

U. *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.

V. *Groundwater* means water below the land surface in a zone of saturation.

W. *Hazardous waste* means a hazardous waste as defined in § 40 CFR 261.3.

X. *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).

Y. *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.

Z. *Indian lands* means "Indian country" as defined in § 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.

AA. *Indian Tribe* means any Indian Tribe having a federally recognized governing body carrying out substantial governmental duties and powers over a defined area.

BB. *Injection well* means a "well" into which "fluids" are being injected.

CC. *Injection zone* means a geological "formation" group of formations, or part of a formation receiving fluids through a "well."

DD. *Major facility* means any UIC "facility or activity" classified as such by the Director

EE. *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 § 20.4.1.500 NMAC (incorporating § 40 CFR Part 262).

FF. *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.

GG. *Owner or operator* means the owner or operator of any "facility or activity" subject to regulation under the UIC program.

HH. *Permit* means an authorization, license, or equivalent control document issued by the Director to implement the requirements of these regulations. A permit includes but is not limited to: area permits and emergency permits. Permit does not include UIC authorization by rule or any permit which has not yet been the subject of final agency action, such as a "draft permit."

II. *Person* means an individual, association, partnership, corporation, municipality, state, federal, or tribal agency, or an agency or employee thereof.

JJ. *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.

KK. *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.

LL. *Project* means a group of wells in a single operation.

MM. *Radioactive Waste* means any waste which contains radioactive material in concentrations which exceed those listed in § 10 CFR 20, Appendix B, Table II, column 2.

NN. *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. 95–3609, Pub. L. 96–510, 42 U.S.C. 6901 et seq.).

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

PP. *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.

QQ. *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.

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

SS. *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.

TT. *Total dissolved solids* means total dissolved solids as determined by the "calculation method" (sum of constituents), by the "residue on evaporation method at 180 degrees" of the "*U.S. Geological Survey techniques of water resource investigations*," or by conductivity, as the Director may determine.

UU. *Transferee* means the owner or operator receiving ownership and/or operational control of the well.

VV. *Transferor* means the owner or operator transferring ownership and/or operational control of the well.

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

XX. *Underground injection* means a "well injection."

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

(1) Which supplies any public water system; or

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

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

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

(c) Which is not an exempted aquifer.

ZZ. *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.

AAA. *Well injection* means the subsurface emplacement of fluids through a well.

19.15.42.8 GENERAL PROVISIONS

A. *General Provisions for Underground Injection Control Programs.*

(1) Note that § 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 § 19.15.42.8.D 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 § 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 Department 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 § 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. *Classification of wells*.

(1) Injection wells are classified as follows:

(a) *Class VI*. Wells that are not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW or wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at § 19.15.43.9.P 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 § 19.15.43.8.A NMAC and § 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 § RESERVE2(A).B 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 § RESERVE3(A).B 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 § 19.15.42.7 NMAC.

(2) The Director may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the Director proposes to designate as exempted aquifers using the criteria in § 19.15.43.8.A 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 § 40 CFR 145.32 and § 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 § 19.15.43.8.A 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 § 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.

(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 § 19.15.42.11.H NMAC or § 19.15.42.11.J 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 paragraph (2)(a) or (2)(b) 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 § 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 paragraph (3)(b) of 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 § 40 CFR 146.13, 146.23, and 146.33.

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

(6) Schedule. (1) 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

19.15.42.9 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 § 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 § 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 § 19.15.42.11.H NMAC, or the permit may be terminated under § 19.15.42.11.I 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 § 40 CFR 144.21 through 144.24 and § 19.15.42.10.A 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 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) Any additional site-specific factors as determined by the Director.

19.15.42.10 AUTHORIZATION OF UNDERGROUND INJECTION BY RULE

A. *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 § 19.15.42.9.F NMAC upon approved plugging and abandonment of the well, or at the time the well is converted to another use.

19.15.42.11 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 § 40 CFR 144.21(d) or authorized by an existing area permit under § 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 § 19.15.42.11.A 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 § 19.15.42.11.H NMAC and § 19.15.42.11.I 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 § 19.15.42.11.F 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 § 19.15.42.11.H NMAC), or a minor modification made (under § 19.15.42.11.J 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 of 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 § 19.15.42.12.A NMAC of this chapter), receives a request for modification or revocation and reissuance under § 19.15.41.8.B 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 § 19.15.41.8.B NMAC. If cause does not exist under this section or § 19.15.42.11.J NMAC, the Director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in § 19.15.42.11.J NMAC for ‘‘minor modifications’’ the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared (§ 19.15.41.8.C 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 (§ 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 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 § 19.15.41.8.B 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 § 19.15.43.9.E NMAC;

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

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

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

(v) Any amendments to the emergency and remedial response plan under § 19.15.43.9.O 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 § 19.15.42.11.I 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 (§ 19.15.42.11.G(2) 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 § 40 CFR 2361.3 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 § 19.15.41.8.C 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 § 19.15.41.8.B NMAC. Any permit modification not processed as a minor modification under this section must be made for cause and with § 19.15.41.8.C and 19.15.41.8.E NMAC draft permit and public notice as required in § 19.15.42.11.H 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 § 19.15.42.12.B NMAC (establishing UIC permit conditions), provided that any such alteration shall comply with the requirements of this part and 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.

19.15.42.12 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 three years after the completion of any plugging and abandonment procedures specified under § 19.15.42.12.B 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 § 19.15.43.9 NMAC, including § 19.15.43.9.E NMAC, § 19.15.43.9.L NMAC, and § 19.15.43.9.M NMAC.

(11) *Signatory requirement.* All applications, reports, or information submitted to the Director shall be signed and certified (See § 19.15.42.11.B 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 § 19.15.42.11.G 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 paragraphs (a) (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12)(f) 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 § 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 paragraph (13)(b) 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 § 19.15.43.9.M NMAC. Where the plan meets the requirements of § 19.15.43.9.M 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 § 19.15.43.9.J NMAC.

(b) When the Director determines that a Class VI well lacks mechanical integrity pursuant to § 40 CFR 146.89 or § 19.15.43.9.J NMAC for Class VI, he/she shall give written notice of his/her determination to the owner or operator. Unless the Director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the Director's determination. The Director may allow plugging of the well pursuant to the requirements of § 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 § 40 CFR 146.89.

(c) The Director may allow the owner or operator of a well which lacks mechanical integrity pursuant to § 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 § 19.15.42.12.A NMAC, the Director shall establish conditions, as required on a case-by-case basis under § 19.15.42.11.E NMAC (duration of permits), § 19.15.42.12.C NMAC (schedules of compliance), § 19.15.42.12.D 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 § 19.15.42.9.A 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 (§ 19.15.42.11.J 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 § 40 CFR 144.55 and 146.7 and § 19.15.43.9.E 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 § 19.15.42.12.A NMAC, § 19.15.43.9.M NMAC, and § 40 CFR 146.10, and submitted a plugging and abandonment report pursuant to § 19.15.42.12.A NMAC; or

(B) The well has been converted in compliance with the requirements of § 19.15.42.12.A 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 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 § 19.15.43.9.F 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 § 19.15.43.9.F 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 § 19.15.42.11.H NMAC.

(5) New or reissued permits, and to the extent allowed under § 19.15.42.11.H NMAC modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in § 19.15.42.12.B 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 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 3 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 section 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 19.15.43 NMAC. Reporting shall be no less frequent than specified in the above regulations.

19.15.42.13 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 1978 NMSA § 70-2-6(A) and § 70-2-31(A)(2).

(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 19.15.5.10 NMAC.

EXHIBIT 2C

TITLE 19 NATURAL RESOURCES AND WILDLIFE
CHAPTER 15 OIL AND GAS
PART 43 UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS

[NEW MATERIAL]

19.15.43.1 ISSUING AGENCY: Oil Conservation Commission.

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.

19.15.43.3 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.

19.15.43.4 DURATION: Permanent.

19.15.43.5 EFFECTIVE DATE: [RESERVED].

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.

19.15.43.7 DEFINITIONS: The following definitions apply to this part:

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. *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.

C. *Catastrophic collapse* means the **sudden** and utter failure of overlying “strata” caused by removal of underlying materials.

D. *Cementing* means the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.

E. *Confining bed* means a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.

F. *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.

G. *Conventional mine* means an open pit or underground excavation for the production of minerals.

H. *Disposal well* means a well used for the disposal of waste into a subsurface stratum.

I. *Effective date* of a UIC program means the date that a State UIC program is approved or established by the Administrator.

J. *Experimental technology* means a technology which has not been proven feasible under the conditions in which it is being tested.

K. *Fault* means a surface or zone of rock fracture along which there has been displacement.

L. *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.

M. *Lithology* means the description of rocks on the basis of their physical and chemical characteristics.

N. *Owner or operator* means the owner or operator of any facility or activity subject to regulation under the RCRA, UIC, NPDES, or 404 programs.

O. *Packer* means a device lowered into a well to produce a fluid-tight seal.

P. *Permit* means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of this part and § 19.15.41 NMAC, § 19.15.42 NMAC, and § 40 CFR 145. Permit does not include RCRA interim status (§ 40 CFR 122.23), UIC authorization by rule (§ 19.15.42.9.C NMAC and § 19.15.42.10.A NMAC), or any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."

Q. *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.

R. *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.

S. *Pressure* means the total load or force per unit area acting on a surface.

T. *Sole or principal source aquifer* means an aquifer which has been designated by the Administrator pursuant to section 1424 (a) or (e) of the SDWA.

U. *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.

V. *Surface casing* means the first string of well casing to be installed in the well.

W. *Well plug* means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.

X. *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, (e) hydraulic fracturing.

Y. *Well monitoring* means the measurement by on-site instruments or laboratory methods, of the quality of water in a well.

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 § 19.15.43.7 NMAC may be determined under § 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 § 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.

19.15.43.9 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 § 19.15.43.9.P NMAC and ensure protection of underground sources of drinking water (USDWs), in lieu of requirements at § 19.15.43.9.G(2) NMAC and § 19.15.43.9.H(1) 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 § 19.15.41.7 NMAC or § 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 § 19.15.43.9.E 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 § 40 CFR 2361.

(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 § 19.15.43.9.P 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 § 19.15.43.8.A NMAC and § 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) *Post-injection site care* means appropriate monitoring and other actions (including corrective action) needed following cessation of injection to ensure that USDWs are not endangered, as required under § 19.15.43.9.N NMAC.

(10) *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) *Site closure* means the point/time, as determined by the Director following the requirements under § 19.15.43.9.N NMAC, at which the owner or operator of a geologic sequestration site is released from post-injection site care responsibilities.

(12) *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 § 19.15.43.9.L(5) NMAC, and the Director shall consider the following:

(a) Information required in § 19.15.42.11.A NMAC;

(b) A map showing the injection well for which a permit is sought and the applicable area of review consistent with § 19.15.43.9.E 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;

(iii) Data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone(s); including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;

(iv) Geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone(s);

(v) Information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment; and

(vi) Geologic and topographic maps and cross sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.

(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 § 19.15.43.9.H 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 § 19.15.43.9.G NMAC;

(m) Proposed area of review and corrective action plan that meets the requirements under § 19.15.43.9.E NMAC;

(n) A demonstration, satisfactory to the Director, that the applicant has met the financial responsibility requirements under § 19.15.43.9.F NMAC;

(o) Proposed testing and monitoring plan required by § 19.15.43.9.K NMAC;

(p) Proposed injection well plugging plan required by § 19.15.43.9.M(2) NMAC;

(q) Proposed post-injection site care and site closure plan required by § 19.15.43.9.N(1) NMAC;

(r) At the Director's discretion, a demonstration of an alternative post-injection site care timeframe required by § 19.15.43.9.N(3) NMAC;

(s) Proposed emergency and remedial response plan required by § 19.15.43.9.O(1) 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 paragraph (1)(b) of this section;

(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 paragraphs (1)(b) and (1)(t) of this section of the permit application and pursuant to the requirements at § 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 paragraphs (3)(b), (c), (d), (e), (f), and (j) of this section;

(b) Any relevant updates, based on data obtained during logging and testing of the well and the formation as required by paragraphs (3)(c), (d), (f), (g), and (j) of this section, to the information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, submitted to satisfy the requirements of paragraph (1)(c) of this section;

(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 paragraph (1)(h) of this section;

(e) Final injection well construction procedures that meet the requirements of § 19.15.43.9.G 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 § 19.15.43.9.H NMAC;

(h) A demonstration of mechanical integrity pursuant to § 19.15.43.9.J 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 section, which are necessary to address new information collected during logging and testing of the well and the formation as required by all paragraphs of this section, and any updates to the alternative post-injection site care timeframe demonstration submitted under paragraph (1) of this section, which are necessary to address new information collected during the logging and testing of the well and the formation as required by all paragraphs of this section; and

(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 § 19.15.43.9.P NMAC and submit a supplemental report, as required at § 19.15.43.9.P(1) 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 section, 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 paragraph (2)(b)(i) of this section;

(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 section, including what corrective action will be performed prior to injection and what, if any, portions of the area of review will have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.

(3) 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 modeling, the projected lateral and vertical migration of the carbon dioxide plume and formation fluids in the subsurface from the commencement of injection activities until the plume movement ceases, until pressure differentials sufficient to cause the movement of injected fluids or

formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director. The model must:

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

(ii) Evaluate and incorporate considerations of any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions; and

(iii) Consider potential migration through faults, fractures, and artificial penetrations.

(b) Using methods approved by the Director, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone(s). Provide a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require; and

(c) 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.

(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, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream, where appropriate.

(5) An initial AoR reevaluation shall occur no later than two years following the commencement of injection operations. 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 § 19.15.43.9.E(5)(d) 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 paragraph (3)(a) and (5) of this section;

(b) Identify all wells in the reevaluated area of review that require corrective action in the same manner specified in paragraph (3) of this section;

(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 section; 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 § 19.15.42.11.H NMAC or § 19.15.42.11.J NMAC, as appropriate.

(6) The emergency and remedial response plan (as required by § 19.15.43.9.O NMAC) and the demonstration of financial responsibility (as described by § 19.15.43.9.F NMAC) must account for the area of review delineated as specified in paragraph (3)(a) of this section or the most recently evaluated area of review delineated under paragraph (5) of this section, 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 section 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 § 19.15.8.8.B 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 § 19.15.8.9-10 NMAC.

(iii) Letter of Credit that satisfies all applicable requirements set forth in § 19.15.8.9 & 19.15.8.11.A-E NMAC.

(iv) Insurance.

(v) Self Insurance (i.e., Financial Test and Corporate Guarantee).

(vi) Escrow Account adhering to the requirements under § 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 § 19.15.43.9.E NMAC;

(ii) Injection well plugging (that meets the requirements of § 19.15.43.9.M NMAC and all additional requirements under §19.15.8.15(C)(1)–(2)(a)–(c) NMAC;

(iii) Post injection site care and site closure (that meets the requirements of § 19.15.43.9.N NMAC, all additional requirements under § 19.15.8.15(A)-(G)(1)-(3) NMAC; and

(iv) Emergency and remedial response (that meets the requirements of § 19.15.43.9.O 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.

(A) Cancellation—for purposes of this part, an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the Director. The cancellation must not be final for 120 days after receipt of cancellation notice. The owner or operator must provide an alternate financial responsibility demonstration within 60 days of notice of cancellation, and if an alternate financial responsibility

demonstration is not acceptable (or possible), any funds from the instrument being cancelled must be released within 60 days of notification by the Director.

(B) 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.

(C) 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 (§ 19.15.43.9.C 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 withoutbeing 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 § 19.15.8.12.A 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 § 19.15.43.9.M NMAC, § 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 section and provide this adjustment to the Director. The owner or operator must also provide to the Director written updates of adjustments to the cost estimate within 60 days of any amendments to the area of review and corrective action plan (§ RESERVE3(B).E NMAC), the injection well plugging plan (§ 19.15.43.9.M NMAC), the post-injection site care and site closure plan (§ 19.15.43.9.N NMAC), and the emergency and remedial response plan (§ 19.15.43.9.O 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 (§ 19.15.43.9.E NMAC), the injection well plugging plan (§ 19.15.43.9.M NMAC), the post-injection site care and site closure plan (§ 19.15.43.9.N NMAC), and the emergency and response plan (§ 19.15.43.9.O 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 paragraph (3)(b) of this section.

(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 he/she 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 section by obtaining a trust fund, surety bond, letter of credit, escrow account, or insurance policy will be deemed to be without the required financial assurance in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee of the institution issuing the trust fund, surety bond, letter of credit, escrow account, or insurance policy. The owner or operator must establish other financial assurance within 60 days after such an event.

(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 § 19.15.43.9.E NMAC), injection well plugging (as required by § 19.15.43.9.M NMAC), post-injection site care and site closure (as required by § 19.15.43.9.N NMAC), and emergency and remedial response (as required by § 19.15.43.9.O 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 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 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 shall be set and cemented through the base of the deepest known underground source of drinking water (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 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.

(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 § 19.15.43.9.G 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:

(a) Deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the 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

(b) 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.

(c) 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.

(d) 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

(e) Any alternative methods that provide equivalent or better information and that are required by and/or approved of by the Director.

(2) 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.

(3) The owner or operator must record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone(s).

(4) 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).

(5) 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.

(6) 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 § 19.15.43.9.C(1)(i) 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 and use:

(a) Continuous recording devices adhering to the standards set forth in § 19.15.26.11 NMAC, to monitor the injection pressure; the rate, volume and/or mass, and temperature of the carbon dioxide stream; and the pressure on the annulus between the tubing and the long string casing and annulus fluid volume; and

(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 section 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 paragraph (1)(a) of this section, owners or operators must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in § 19.15.43.9.I(5) 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 paragraph (1)(b) of this section:

(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 § 19.15.43.9.K 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 paragraphs (1)(a) or (1)(b) of this section. Also, the Director may allow the use of a test to demonstrate mechanical integrity other than those listed above with the written approval of the 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 section are not satisfactory to the Director to demonstrate that there is no significant leak in the casing, tubing, or packer, or to demonstrate that there is no significant movement of fluid into a USDW resulting from the injection activity as stated in paragraphs (1)(a) and (b) of this section.

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. 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 § 19.15.43.9.I(4) 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 § 19.15.43.9.G(2) 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 ground water quality and geochemical changes above the confining zone(s) that may be a result of carbon dioxide movement through the confining zone(s) or additional identified zones including:

(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 monitoring wells based on baseline geochemical data that has been collected under § 19.15.43.9.C(1)(f) NMAC and on any modeling results in the area of review evaluation required by § 19.15.43.9.E(3) 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 § 40 CFR 144.12;

(5) A demonstration of external mechanical integrity pursuant to § 19.15.43.9.J(3) NMAC, adhering to the methods prescribed in § 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 § 19.15.43.9.J(4) 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 monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using:

(a) Direct methods in the injection zone(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.

(c) Soil gas monitoring is required to detect movement of carbon dioxide that could endanger a USDW;

(d) The Director may require surface air monitoring 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.

(e) 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.

(f) 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 § 19.15.43.9.C(1)(f) NMAC and on any modeling results in the area of review evaluation required by § 19.15.43.9.E(3) NMAC.

(g) If an owner or operator demonstrates that monitoring employed under § 40 CFR § 98.440 to 98.449 (Clean Air Act, 42 U.S.C. 7401 et seq.) accomplishes the goals of paragraphs (8)(a) and (b) of this section, and meets the requirements pursuant to § 19.15.43.9.L(3)(e) NMAC, a Director that requires surface air/soil gas monitoring must approve the use of monitoring employed under § 40 CFR 98.440 to 98.449. Compliance with § 40 CFR 98.440 to 98.449 pursuant to this provision is considered a condition of the Class VI permit;

(8) 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 spatial distribution of the monitoring network must be decided using baseline data and must incorporate the Seismic Hazard Assessment and other findings pursuant to § 19.15.43.9.C(1)(c)(v) NMAC to establish baseline microseismic activity.

(9) Any additional monitoring, as required by the Director, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under § 19.15.43.9.E(3) NMAC and to determine compliance with standards under § 19.15.42.9.B NMAC.

(10) The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under this subpart, operational data collected under § 19.15.43.9.I NMAC, and the most recent area of review reevaluation performed under § 19.15.43.9.E(5) NMAC. 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 § 19.15.42.11.H NMAC or § 19.15.42.11.J 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.

(11) 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 section, 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 § 19.15.43.9.I (5) NMAC and the response taken;

(e) The monthly volume and/or mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;

(f) Monthly annulus fluid volume added; and

(g) The results of monitoring prescribed under § 19.15.43.9.K NMAC.

(2) Report, within 30 days, the results of:

(a) Periodic tests of mechanical integrity;

(b) Any well workover; and,

(c) 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 § 19.15.43.9.K(8) 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 § 19.15.43.9.C 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 subpart to the Director and to the 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 § 19.15.43.9.C 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 § 19.15.43.9.K(1) 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 § 19.15.43.9.K(2) through (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 § 19.15.43.9.N(6) and (8) 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 § 19.15.43.9.J 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 §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 § 19.15.43.9.L (5) 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 § 19.15.42.11.H NMAC or § 19.15.42.11.J NMAC.

(4) *Well plugging report*. Within 30 days after well plugging and abandonment, the owner or operator must submit, pursuant to § 19.15.43.L(5) 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 § 19.15.25.10.F 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 paragraph (1)(b) 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.

(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 § 19.15.43.E(3)(a) 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 § 19.15.43.L(5) 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 § 19.15.42.11.H NMAC or § 19.15.42.11.J NMAC, as appropriate.

(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 section, unless the owner or operator makes a demonstration under (2)(b) of this section. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under (2)(b) of this section 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 paragraph (2)(c) of this section cannot be made (i.e., additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs) at the end of the 50-year period or at the end of the approved alternative timeframe, or if the Director does not approve the demonstration, the owner or operator must submit to the Director a plan to continue post-injection site care until a demonstration can be made and approved by the Director.

(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 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 § 19.15.43.9.C NMAC and § 19.15.43.9.D NMAC, 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 § 19.15.43.9.E 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/or 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/or mineral phase;

(vi) The results of laboratory analyses, research studies, and/or field or site-specific studies to verify the information required in paragraphs (iv) and (v) of this section;

(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 and/or below the injection zone; and

(xi) Any additional site-specific factors required by the Director.

(b) Information submitted to support the demonstration in paragraph (3)(a) of this section 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 § 19.15.43.9.M NMAC and paragraph (5) of this section. The owner or operator must provide a copy of a survey plat which has been submitted to the local zoning authority designated by the Director. The plat must indicate the location of the injection well relative to permanently surveyed benchmarks. The owner or operator must also submit a copy of the plat to the appropriate EPA Regional Office per § 19.15.43.9.M 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 the State agency, local authority, and/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) If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, the owner or operator must:

(a) Immediately cease injection;

(b) Take all steps reasonably necessary to identify and characterize any release;

(c) Notify the Director within 24 hours; and

(d) Implement the emergency and remedial response plan approved by the Director.

(4) The Director may allow the operator to resume injection prior to remediation if the owner or operator demonstrates that the injection operation will not endanger USDWs.

(5) The owner or operator shall periodically review the emergency and remedial response plan developed under paragraph (1) of this section 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 § 19.15.42.11.H NMAC or § 19.15.42.11.J 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 § 19.15.43.9.E NMAC, and is subject to requirements, as described in § 19.15.43.9.E(3) NMAC, and periodic reevaluation, as described in § 19.15.43.9.E(5) 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 § 19.15.43.9.G(1)(a) NMAC and will meet well construction requirements in paragraph (6) of this section.

(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.

(f) 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.

(g) 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 § 40 CFR 144.6, § 40 CFR 146.5(f), and § 19.15.43.9.G(1)(a) 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.

(c) Consultation with the State Engineer.

(d) Any written waiver-related information submitted by the Public Water System Supervision Director(s) to the (UIC) Director.

(3) Pursuant to requirements at § 19.15.41.8.E 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 paragraph (2)(b) of this section.

(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 § 19.15.43.9.E NMAC, § 19.15.43.9.F NMAC, § 19.15.43.9.H NMAC, § 19.15.43.9.I NMAC, § 19.15.43.9.J NMAC, § 19.15.43.9.L NMAC, § 19.15.43.9.M NMAC, and § 19.15.43.9.O NMAC;

(b) All requirements at § 19.15.43.9.G 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 § 19.15.43.9.G(1)(a) 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 § 19.15.43.9.G(2)(a) 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 § 19.15.43.9.K 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 § 19.15.43.9.N 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/or 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).