

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS ON STATE UNDERGROUND INJECTION CONTROL PROGRAMS

(40 CFR 147; 49 FR 20197, May 11, 1984; Amended by 49 FR 24135, June 12, 1984; 49 FR 25634, June 22, 1984; 49 FR 28058, July 10, 1984; 49 FR 30699, August 1, 1984; 49 FR 31876, August 9, 1984; 49 FR 37066, September 21, 1984; 49 FR 37594, September 25, 1984; 49 FR 42728, October 24, 1984; 49 FR 45305, November 15, 1984; 49 FR 46897, November 29, 1984; Corrected by 50 FR 7060, February 20, 1985; Amended by 50 FR 23957, June 7, 1985; 50 FR 28942, 28943, July 17, 1985; 51 FR 16684, May 6, 1986; 52 FR 17680, May 11, 1987; 53 FR 39089, October 5, 1988; 53 FR 43086, 43104, October 25, 1988; 54 FR 8735, March 2, 1989; Corrected by 54 FR 10616, March 14, 1989)

Part 147 — STATE UNDERGROUND INJECTION CONTROL PROGRAMS

Authority: 42 U.S.C. 300h; and 42 U.S.C. 6901 *et seq.*

[Amended by 50 FR 23957, June 7, 1985; 50 FR 28942, 28943, July 17, 1985; 51 FR 16684, May 6, 1986; 52 FR 17680, May 11, 1987; 53 FR 39089, October 5, 1988; 53 FR 43086, October 25, 1988]

Subpart A—General Provisions

§147.1 Purpose and scope.

(a) This part sets forth the applicable Underground Injection Control (UIC) programs for each of the states, territories, and possessions identified pursuant to the Safe Drinking Water Act (SDWA) as needing a UIC program.

(b) The applicable UIC program for a State is either a State-administered program approved by EPA, or a Federally-administered program promulgated by EPA. In some cases, the UIC program may consist of a State-administered program applicable to some classes of wells and a Federally-administered program applicable to other cases of wells. Approval of a State program is based upon a determination by the Administrator that the program meets the requirements of Section 1422 or Section 1425 of the Safe Drinking Water Act and the applicable provisions of Parts 124, 144, and 146 of this chapter. A Federally-administered program is promulgated in those instances where the state has failed to submit a program for approval or where the submit-

ted program does not meet the minimum statutory and regulatory requirements.

(c) In the case of State programs approved by EPA pursuant to Section 1422 of the SDWA, each State subpart describes the major elements of such programs, including State status and regulations, Statement of Legal Authority, Memorandum of Agreement, and Program Description. State statutes and regulations that contain standards, requirements, and procedures applicable to owners or operators have been incorporated by reference pursuant to regulations of the Office of the Federal Register. Material incorporated by reference is available for inspection in the appropriate EPA Regional Office, in EPA Headquarters, and at the Office of the Federal Register Information Center, Room 8301, 1100 L Street, NW, Washington, DC 20408. Other State statutes and regulations containing standards and procedures that constitute elements of the State program but do not apply directly to owners or operators have been listed but have not been incorporated by reference.

(d) In the case of State programs promulgated under Section 1422 that are to be administered by EPA, the State subpart makes applicable the provisions of Parts 124, 144, and 146, and provides additional requirements pertinent to the specific State program.

(e) Regulatory provisions incorporated by reference (in the case of approved State programs) or promulgated by EPA (in the case of EPA-administered programs), and all permit conditions or permit denials issued pursuant to such regulations, are

enforceable by the Administrator pursuant to Section 1423 of the SDWA.

(f) The information requirements located in the following sections have been cleared by the Office of Management and Budget: §§147.104, 147.304, 147.754, 147.904, 147.1154, 147.1354, 147.1454, 147.1654, 147.1954, and 147.2154.

The OMB clearance number is No. 2040-0042.

§147.2 Severability of provisions.

The provisions in this part and the various applications thereof are distinct and severable. If any provision of this part or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or application of such provision to other persons or circumstances which can be given effect without the invalid provision or application.

Subpart B — Alabama

§147.50 State-administered program — Class II wells.

The UIC program for Class II wells in the State of Alabama, except those on Indian lands, is the program administered by the State Oil and Gas Board of Alabama, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the **Federal Register** on August 2, 1982 (47 FR 33268); the effective date of this program is August 2, 1982. This program consists of the following elements, as submitted to EPA in the State's program application: [147.50 introductory text amended by 53 FR 43086, October 25, 1988]

[Sec. 147.50]



(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Alabama. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Code of Alabama 1975, §§ 9-17-1 through 9-17-110 (1980 and Supp. 1983);

(2) State Oil and Gas Board of Alabama, Oil and Gas Report 1 (supplemented) (1981), General Order Prescribing Rules and Regulations Governing the Conservation of Oil and Gas in Alabama (Order No. 76-100) as amended by Board Order No. 82-96 (May 14, 1982) amending Rule E-4).

(b) The Memorandum of Agreement between EPA Region IV and the Alabama Oil and Gas Board, signed by the EPA Regional Administrator on June 15, 1982.

(c) *Statement of Legal Authority.* "State Oil and Gas Board has Authority to Carry Out Underground Injection Control Program Relating to Class II Wells as Described in Federal Safe Drinking Water Act — Opinion by Assistant Attorney General," May 28, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§147.51 State-administered program — Class I, III, IV and V wells

The UIC program for Class I, III, IV and V wells in the State of Alabama, except those on Indian lands, is the program administered by the Alabama Department of Environmental Management, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the **Federal Register** on August 25, 1983 (48 FR 38640); the effective date of this program is August 25, 1983. This program consists of the following elements, as submitted to EPA in the State's program application: [147.51 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and

made a part of the applicable UIC program under SDWA for the State of Alabama. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Alabama Water Pollution Control Act, Code of Alabama 1975, §§22-22-1 through 22-22-14 (1980 and Supp. 1983);

(2) Regulations, Policies and Procedures of the Alabama Water Improvement Commission, Title I (Regulations) Rev. December 1980), as amended May 17, 1982, to add Chapter 9, Underground Injection Control Regulations (effective June 10, 1982), as amended April 6, 1983 (effective May 11, 1983).

(b) The Memorandum of Agreement between EPA Region IV and the Alabama Department of Environment Management signed by the EPA Regional Administrator on May 24, 1983.

(c) *Statement of Legal Authority.* (1) "Water Pollution — Public Health — State has Authority to Carry Out Underground Injection Control Program Described in Federal Safe Drinking Water Act — Opinion by Legal Counsel for the Water Improvement Commission," June 25, 1982;

(2) Letter from Attorney, Alabama Water Improvement Commission, to Regional Administrator, EPA Region IV, "Re: AWIC Response to Phillip Tate's (U.S. EPA, Washington) Comments on AWIC's Final Application for Class I, III, IV, and V UIC Program," September 21, 1982;

(3) Letter from Alabama Chief Assistant Attorney General to Regional Counsel, EPA Region IV, "Re: Status of Independent Legal Counsel in Alabama Water Improvement Commission's Underground Injection Control Program," September 14, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§147.60 EPA-administered program — Indian lands.

[147.60 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Alabama is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection

well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Alabama is November 25, 1988.

Subpart C — Alaska

§ 147.100 State-administered program— Class II wells.

[147.100 added by 51 FR 16684, May 6, 1986]

The UIC program for Class II wells in the State of Alaska, other than those on Indian lands, is the program administered by the Alaska Oil and Gas Conservation Commission approved by EPA pursuant to Section 1425 of the SDWA. Notice of this approval was published in the **FEDERAL REGISTER** [May 6, 1986]; the effective date of this program is June 19, 1986. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Alaska. This incorporation by reference was approved by the Director of the **FEDERAL REGISTER** effective June 19, 1986.

(1) Alaska Statutes, Alaska Oil and Gas Conservation Act, Title 31, §§ 31.05.005 through 31.30.010 (1979 and Cum. Supp. 1984);

(2) Alaska Statutes, Administrative Procedures Act, Title 44, §§ 44.62.010 through 44.62.650 (1984);

(3) Alaska Administrative Code, Alaska Oil and Gas Conservation Commission, 20 AAC 25.005 through 20 AAC 25.570 (Supp. 1986).

(b) The Memorandum of Agreement between EPA Region 10, and the Alaska Oil and Gas Conservation Commission, signed by the EPA Regional Administrator on January 29, 1986.

(c) *Statement of Legal Authority.* Statement from the Attorney General of the State of Alaska, signed by the Assistant Attorney General on December 10, 1985.

(d) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.101 EPA-administered program.

[147.101 revised by 52 FR 17680, May 11, 1987]

(a) *Contents.* The UIC program in the State of Alaska for Classes I, III,

IV and V wells, and for all classes of wells on Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146, and additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date of the UIC program for all non-Class II wells in Alaska and for all wells on Indian lands, is June 25, 1984.

§147.102 Aquifer exemptions.

(a) This section identifies any aquifers or their portions exempted in accordance with §§144.7(b) and 146.4 of this chapter at the time of program promulgation. EPA may in the future exempt other aquifers or portions, according to applicable procedures, without codifying such exemptions in this section. An updated list of exemptions will be maintained in the Regional office.

(b) The following aquifers are exempted in accordance with the provisions of §§144.7(b) and 146.4 of this chapter for Class II injection activities only:

(1) The portions of aquifers in the Kenai Peninsula, greater than the indicated depths below the ground surface, and described by a ¼ mile area beyond and lying directly below the following oil and gas producing fields:

- (A) Swanson River Field—1700 feet.
- (B) Beaver Creek Field—1650 feet.
- (C) Kenai Gas Field—1300 feet.

(2) The portion of aquifers beneath Cook Inlet described by a ¼ mile area beyond and lying directly below the following oil and gas producing fields:

- (A) Granite Point.
- (B) McArthur River Field.
- (C) Middle Ground Shoal Field.
- (D) Trading Bay Field.

(3) The portions of aquifers on the North Slope described by a ¼ mile area beyond and lying directly below the Kuparuk River Unit oil and gas producing field.

§147.103 Existing class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of §144.28(f)(3)(i) or (ii) as applicable; or

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g) d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of inject fluid (unitless)

d = injection depth in feet.

§147.104 Existing class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of §144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish maximum injection pressures after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of §144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of §144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administra-

tor within 1 year of the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) as needed to protect USDWs.

Subpart D—Arizona

§147.150 State-administered program.
[Reserved]

§147.151 EPA-administered program.

[147.151 revised by 52 FR 17680, May 11, 1987; 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program that applies to all injection activities in Arizona, including those on Indian lands, is administered by EPA. The UIC program for Navajo lands consists of the requirements contained in Subpart HHH of this Part. The program for all injection activity except that on Navajo Indian land consists of the UIC program requirements of 40 CFR Parts 124, 144, 146, and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

[Sec. 147.151(a)]

(b) *Effective dates.* The effective date for the UIC program in Arizona, except for the lands of the Navajo Indians, is June 25, 1984. The effective date for the UIC program on the lands of the Navajo is November 25, 1988.

§ 147.152 Aquifer exemptions. [Reserved]

Subpart E—Arkansas

§ 147.200 State-administered program—
Class I, III, IV and V wells.

The UIC program for Class I, III, IV and V wells in the State of Arkansas, except those wells on Indian lands, is the program administered by the Arkansas Department of Pollution Control and Ecology approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the *Federal Register* on July 6, 1982 (47 FR 29236); the effective date of this program is July 6, 1982. This program consists of the following elements, as submitted to EPA in the State's program application.

[147.200 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Arkansas. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Arkansas Water and Air Pollution Control Act, Act 472 of 1949 as amended, Arkansas Statutes Annotated sections 82-1901 through 82-1943 (1976);

(2) Act 105 of 1939, Arkansas Statutes Annotated sections 53-101 through 53-130 (1971 and Supp. 1981); Act 937 of 1979, Arkansas Statutes Annotated sections 53-1301 through 53-1320 (Supp. 1981); Act 523 of 1981;

(3) Arkansas Underground Injection Control Code, Department of Pollution Control and Ecology, promulgated January 22, 1982;

(4) General Rule and Regulations, Arkansas Oil and Gas Commission (Order No. 2-39, revised July 1972);

(5) Arkansas Hazardous Waste Management Code, Department of Pollution Control and Ecology, promulgated August 21, 1981.

(b) The Memorandum of Agreement and Addendum No. 1 to the Memorandum of Agreement, between EPA Region VI and the Arkansas Department of Pollution Control and Ecology and the Arkansas Oil and Gas Commission, signed by the EPA Regional Administrator on May 25, 1982.

(c) *Statement of legal authority.* (1) Letter from Chief Attorney, Arkansas Department of Pollution Control and Ecology, to Acting Regional Administrator, EPA Region VI, "Re: Legal Authority of the Department of Pollution Control and Ecology of the State of Arkansas to Administer an Underground Injection Control Program," July 29, 1981;

(2) Letter from Chief Attorney, Arkansas Department of Pollution Control and Ecology, to Acting Regional Counsel, EPA Region VI, "Re: Addendum to Legal Statement—Underground Injection Control Program," October 13, 1981;

(3) Letter from General Counsel, Arkansas Oil and Gas Commission, to Acting Regional Counsel, EPA Region VI, "Re: Supplemental Addendum to Legal Statement—Underground Injection Control Program," October 20, 1981;

(4) Letter from Chief Attorney, Arkansas Department of Pollution Control and Ecology, to Attorney, Office of Regional Counsel, EPA Region VI (re: status as independent legal counsel), December 31, 1981;

(5) Letter from General Counsel, Arkansas Oil and Gas Commission, to Acting Regional Counsel, EPA Region VI, "Re: Supplemental Addendum to Legal Statement—Underground Injection Control Program," January 13, 1982;

(6) Letter from Chief Counsel, Arkansas Department of Pollution Control and Ecology, to Acting Regional Counsel, EPA Region VI, "Re: Addendum to Legal Statement—Underground Injection Control Program," February 15, 1982;

(7) Letter from Chief Counsel, Arkansas Department of Pollution Control and Ecology, to Acting Regional Counsel, EPA Region VI, "Re: Addendum to Legal Statement—Underground Injection Control Program," May 13, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.201 State-administered program—
Class II wells. [Reserved]

§ 147.205 EPA-administered program—
Indian lands.

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Arkansas is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Arkansas is November 25, 1988.

[147.205 added by 53 FR 43086, October 25, 1988]

Subpart F—California

§ 147.250 State-administered program—
Class II wells.

The UIC program for Class II wells in the State of California, except those on Indian lands, is the program administered by the California Division of Oil and Gas, approved by EPA pursuant to SDWA section 1425.

[147.250 introductory text amended by 52 FR 17680, May 11, 1987]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of California. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) California Public Resources Code sections 3000-3359 (West 1972 and Supp. 1984);

(2) California Administrative Code, title 14, sections 1710 to 1724.10 (1980)

(b) The Memorandum of Agreement between EPA Region IX and the California Division of Oil and Gas, signed by the EPA Regional Administrator on September 29, 1982.

(c) *Statement of legal authority.* (1) Letter from California Deputy Attorney General to the Administrator of EPA, "Re: Legal Authority of California Division of Oil and Gas to Carry Out Class II Injection Well Program," April 1, 1981;

(2) Letter from California Deputy Attorney General to Chief of California Branch, EPA Region IX, "Re: Cali-

fornia Application for Primacy, Class II UIC Program," December 3, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.251 EPA-administered program—
Class I, III, IV and V wells and Indian
lands.

[147.25] revised by 52 FR 17680, May
11, 1987]

(a) *Contents.* The UIC program for the State of California for Class I, III, IV and V wells, and for all classes of wells on Indian lands, is administered by EPA. The program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and additional requirements set forth in the remainder of this subpart. Injection well owners and operators, and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program for all lands in California, including Indian lands, is June 25, 1984.

§ 147.252 Aquifer exemptions [Reserved]

§ 147.253 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3) (i) or (ii) as applicable; or
(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g)d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of inject fluid (unitless)
 d = injection depth in feet.

Subpart G—Colorado

§ 147.300 State-administered program.
[Reserved]

§ 147.301 EPA-administered program—
Class I, III, IV, V wells and Indian
lands.

[147.301 revised by 52 FR 17680, May 11,
1987]

(a) *Contents.* The UIC program for Class I, III, IV, and V wells on all

lands in Colorado, including Indian lands, and for Class II wells on Indian lands, is administered by EPA. The program for all EPA-administered wells in Colorado other than Class II wells on lands of the Ute Mountain Ute consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and the additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program on all lands in Colorado, including Indian lands, except for Class II wells on lands of the Ute Mountain Ute, is June 25, 1984.

§ 147.302 Aquifer exemptions.

(a) This section identifies any aquifers of their portions exempted in accordance with §§ 144.7(b) and 146.4 of this chapter at the time of program promulgation. EPA may in the future exempt other aquifers or portions according to applicable procedures without codifying such exemptions in this section. An updated list of exemptions will be maintained in the Regional office.

(b) For all aquifers into which existing Class II wells are injecting, those portions within a ¼ mile radius of the well are exempted for the purpose of Class II injection activities only.

§ 147.303 Existing class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3) (i) or (ii) as applicable; or

(b) A value for wellhead pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g)d$$

where:

P_m = injection pressure at the wellhead in pounds per square inch

S_g = specific gravity of injected fluid (unitless)

d = injection depth in feet.

§ 147.304 Existing class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirements of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressures based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within one year of the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of

[Sec. 147.304(b)]

§§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) as needed to protect USDWs.

§ 147.305 Requirements for all wells.

(a) The owner or operator converting an existing well to an injection well shall check the condition of the casing with one of the following logging tools:

(1) A Pipe analysis log; or

(2) A Caliper log.

(b) The owner or operator of a new injection well cased with plastic (PVC, ABS, and others) casings shall:

(1) Not construct a well deeper than 500 feet;

(2) Use cement and additives compatible with such casing material;

(3) Cement the annular space above the injection interval from the bottom of the blank casing to the surface.

(c) The owner or operator of a newly drilled well shall install centralizers as directed by the Regional Administrator.

(d) The owner or operator shall as required by the Regional Administrator:

(1) Protect USDWs by:

(i) Setting surface casing 50 feet below the base of the lowermost USDW;

(ii) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(iii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may approve alternate casing and cementing practices provided that the owner or operator demonstrates that such practices will adequately protect USDWs.

(e) *Area of review.* Notwithstanding the alternatives presented in § 146.6 of this chapter, the area of review shall be a fixed radius as described in § 146.6(b) of this chapter.

(f) The applicant must give separate notice of intent to apply for a permit to each owner or tenant of the land within one-quarter mile of the site. The addresses of those to whom notice is given, and a description of how notice is given, shall be submitted with the permit application. The notice shall include:

(1) Name and address of applicant;

(2) A brief description of the planned injection activities, including well location, name and depth of the injection zone, maximum injection pressure and volume, and fluid to be injected;

(3) EPA contact person; and

(4) A statement that opportunity to comment will be announced after EPA prepares a draft permit. This requirement may be waived by the Regional Administrator when he determines that individual notice to all land owners and tenants would be impractical.

Subpart H—Connecticut

§§ 147.350 — 147.352 [Reserved]

§ 147.353 EPA-administered program—Indian lands.

[147.353 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Connecticut is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Connecticut is November 25, 1988.

§§ 147.354 — 147.359 [Reserved]

Subpart I—Delaware

§§ 147.400 — 147.402 [Reserved]

§ 147.403 EPA-administered program—Indian lands.

[147.403 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Delaware is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Delaware is November 25, 1988.

§§ 147.404 — 147.449 [Reserved]

Subpart J—District of Columbia

§ 147.450 State-administered program. [Reserved]

§ 147.451 EPA-administered program.

[147.451 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the District of Columbia, including any Indian lands in the District, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in the District of Columbia is November 25, 1988. The effective date for the UIC program in the rest of the District is June 25, 1984.

§ 147.452 Aquifer exemptions. [Reserved]**Subpart K—Florida****§ 147.500 State-administered program—Class I, III, IV, and V wells.**

The UIC program for Class I, III, IV, and V wells in the State of Florida, except for those on Indian lands is administered by the Florida Department of Environmental Regulations, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the Federal Register on February 7, 1983 (48 FR 5556); the effective date of this program is March 9, 1983. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.500 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Florida. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Florida Air and Water Pollution Control Act, Florida Statutes Annotated sections 403.011 through 403.90 (1973 and Supp. 1983);

(2) Chapters 17 to 28, Underground Injection Control, Florida Administrative Code sections 17-28.11 through 17-28.64 (Supp. 1982).

(b) *Other laws.* The following statutes and regulations although not incorporated by reference, also are part of the approved State-administered program:

(1) Administrative Procedures Act, Florida Statutes Chapter 120;

(2) Florida Administrative Code, Chapter 17-1 (1932) (Administrative Procedures Act);

(3) Florida Administrative Code, Chapter 17-3 (1982) (Water Quality Standards);

(4) Florida Administrative Code, Chapter 17-4 (1982) (Permits);

(5) Florida Administrative Code, Chapter 28-5 (1982) (Decisions Determining Substantial Interests);

(6) Florida Administrative Code, Chapter 28-6 (1982) (Licensing);

(c) The Memorandum of Agreement between EPA Region IV and the Florida Department of Environmental Regulation, signed by the EPA Regional Administrator on March 31, 1983.

(d) *Statement of legal authority.* (1) "Statement of Legal Authority for Implementation of Underground Injection Control Program" and accompanying certifications, signed by General Counsel for the Florida Department of Environmental Regulation, January 14, 1982;

(2) "Addendum to Statement of Legal Authority for Implementation of Underground Injection Control Program" and accompanying certifications, signed by Acting General Counsel for the Florida Department of Environmental Regulation, September 20, 1982.

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.501 EPA-administered program—Class II wells and Indian lands.

[147.501 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands and for Class II wells on non-Indian lands in the State of Florida is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and the additional requirements set forth in the remainder

of this subpart. Injection well owners and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date of the UIC program for Indian lands in Florida is November 25, 1988. The effective date for Class II wells on non-Indian lands is December 30, 1984.

§ 147.502 Aquifer Exemptions. [Reserved]**§ 147.503 Existing Class II (except enhanced recovery and hydrocarbon storage) wells authorized by rule.**

Maximum injection pressure. To meet the operating requirements of § 144.28(f)(3)(i) of this chapter, the owner or operator shall use an injection pressure at the well head no greater than the pressure calculated using the following formula:

$$P_m = (0.733 - 0.433 S_g) d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of injected fluid (unitless)

d = injection depth in feet.

§ 147.504 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressure greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and

[Sec. 147.504(a)(1)(ii)]

(B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within 1 year of the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) Comply with other requirements which the Regional Administrator

may specify either in addition to or in lieu of the requirements set forth in paragraphs (b)(1) through (3) of this section as needed to protect USDWs.

(c) *Area of review.* Notwithstanding the alternatives presented in § 146.06 of this chapter, the area of review shall be a minimum fixed radius as described in § 146.06(b) of this chapter.

(The information collection requirements contained in paragraph (a)(2)(ii) were approved by the Office of Management and Budget under control number 2040-0042)

Subpart L—Georgia

§§147.550 — 147.552 [Reserved]

§ 147.553 EPA-administered program—
Indian lands.

[147.553 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Georgia is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Georgia is November 25, 1988.

§§147.554 — 147.559 [Reserved]

Subpart M—Hawaii

§ 147.600 State-administered program.
[Reserved]

§ 147.601 EPA-administered program.

[147.601 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the State of Hawaii, including all Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Hawaii is November 25, 1988. The effective date for the UIC program for all other lands in Hawaii is December 30, 1984.

Subpart N—Idaho

§ 147.650 State-administrative program—
Class I, II, III, IV, and V wells.

[147.650 revised by 50 FR 23957, June 7, 1985]

The UIC program for Class I, II, III, IV, and V wells in the State of Idaho, other than those on Indian lands, is the program administered by the Idaho Department of Water Resources, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on June 7, 1985; the effective date of this program is July 22, 1985. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Idaho. This incorporation by reference was approved by the Director of the FEDERAL REGISTER effective July 22, 1985.

(1) Public Writings, Title 9, Chapter 3, Idaho Code, sections 9-301 through 9-302 (Bobbs-Merrill 1979);

(2) Crimes and Punishments, Title 18, Chapter 1, Idaho Code, sections 18-113 through 18-114 (Bobbs-Merrill 1979 and Supp. 1984);

(3) Department of Health and Welfare, Title 39, Chapter 1, Idaho Code, Chapter 39-108 (Bobbs-Merrill 1977);

(4) Drainage-Water Rights and Reclamation, Title 42, Chapter 2, Idaho Code sections 42-237(e); section 42-238 (Bobbs-Merrill 1977 and Supp. 1984);

(5) Department of Water Resources-Water Resources Board, Title 42, Chapter 17, Idaho Code, sections 42-1701, 42-1703, 42-1735 (Bobbs-Merrill 1977, section 42-1701A (Supp. 1984);

(6) Director of Department of Water Resources, Title 42, Chapter 18, Idaho

Code, sections 42-1801 through 42-1805 (Bobbs-Merrill 1977);

(7) Waste Disposal and Injection Wells, Title 42, Chapter 39, Idaho Code, sections 42-3901 through 42-3914 (Bobbs-Merrill 1977), sections 42-3915 through 42-3919 (Supp. 1984);

(8) Idaho Trade Secrets Act, Title 48, Chapter 8, Idaho Code, sections 48-801 through 48-807 (Bobbs-Merrill 1977 and Supp. 1984);

(9) Administrative Procedure, Title 67, Chapter 52, Idaho Code, sections 67-5201 through 67-5218 (Bobbs-Merrill 1980 and Supp. 1984);

(10) Idaho Radiation Control Regulations (IRCR section 1-9002.70; sections 1-9100 through 1-9110, Department of Health and Welfare (May 1981);

(11) Rules and Regulations: Construction and Use of Injection Wells, Idaho Department of Water Resources, Rules 1 through 14 (August 1984);

(12) Rules and Regulations: Practice and Procedures, Idaho Department of Water Resources, Rules 1 through 14 (October 1983).

(b) The Memorandum of Agreement between EPA and Region X and the Idaho Department of Water Resources signed by the EPA Regional Administrator on February 11, 1985.

(c) *Statement of legal authority.* (1) The Idaho Attorney General's Statement for the Underground Injection Control Program, October 31, 1984.

(2) Letter from David J. Barber, Deputy Attorney General, Idaho Department of Water Resources to Harold Scott, EPA, Region 10, revising the Attorney General's Statement, February 14, 1985.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.651 EPA-administered program.

[147.651 added by 52 FR 17680, May 11, 1987]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Idaho is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of

this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date of the UIC program for Indian lands in Idaho is June 11, 1984.

§ 147.652 Aquifer exemptions. [Reserved]

Subpart O—Illinois

§ 147.700 State-administered program—Class I, III, IV, and V wells.

The UIC program for Class I, III, IV, and V wells in the State of Illinois, except those on Indian lands, is the program administered by the Illinois Environmental Protection Agency, approved by EPA pursuant to section 1422 of the SDWA. Notice of the approval was published in the Federal Register on February 1, 1984 (49 FR 3991); the effective date of this program is March 3, 1984. This program consists of the following elements, as submitted to EPA in the State's program application: [147.700 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the state statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Illinois. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Illinois Environmental Protection Act, Illinois ch. 111½, sections 1001 to 1051 (Smith-Hurd 1977 Revised Statutes and Supp. 1983), as amended by Public Act No. 83-431, 1983 Illinois Legislative Service, pages 2910 to 2916 (West);

(2) Illinois Pollution Control Board Rules and Regulations at Title 35, Illinois Administrative Code, Chapter I, Part 700, Outline of Waste Disposal Regulations; Part 702, RCRA and UIC Permit Programs; Part 704, UIC Permit Program; Part 705, Procedures for Permit Issuance and Part 730, Underground Injection Control Operating Requirements as amended by IPCB Order No. R-83039 on December 15, 1983.

(b) The Memorandum of Agreement between EPA Region V and the Illi-

nois Environmental Protection Agency, signed by the EPA Regional Administrator on March 22, 1984.

(c) *Statement of legal authority.* Letter from Illinois Attorney General to Regional Administrator, EPA Region V, and attached statement, December 16, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.701 State-administered program—Class II wells.

The UIC program for Class II wells in the State of Illinois, except those on Indian lands, is the program administered by the Illinois Environmental Protection Agency, approved by EPA pursuant to section 1425 of the SDWA. Notice of the approval was published in the Federal Register on February 1, 1984 (49 FR 3990); the effective date of this program is March 3, 1984. This program consists of the following elements, as submitted to EPA in the state's program application:

[147.701 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State Statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Illinois. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Conservation of Oil and Gas, etc., Illinois Revised Statutes ch. 96½, §§ 5401-5457 (Smith-Hurd 1979 and Supp. 1983), as amended by Public Act No. 83-1074 1983 Illinois Legislative Service pages 7183-7185 (West);

(2) Illinois Environmental Protection Act, Illinois Revised Statutes ch. 111½, §§ 1001-1051 (Smith-Hurd 1977 and Supp. 1983), as amended by Public Act No. 83-431, 1983 Illinois Legislative Services pages 2910-2916 (West);

(3) Illinois Revised Statutes ch. 100½, §§ 26 (Smith-Hurd Supp. 1983);

(4) Illinois Department of Mines and Minerals Regulations for the Oil and Gas Division, Rules I, II, IIA, III, V, VII, and IX (1981).

(b) The Memorandum of Agreement between EPA Region V and the Illi-

[Sec. 147.701(b)]

Department of Mines and Minerals signed by the EPA Regional Administrator on March 22, 1984.

(c) *Statement of Legal Authority.* "Certification of Legal Authority," signed by State Attorney, Richland County, Illinois, May 5, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.703 EPA-administered program—Indian lands.

[147.703 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the State of Illinois on Indian lands in Illinois is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program for Indian lands is November 25, 1988.

Subpart P—Indiana

§ 147.750 State-administered program. [Reserved]

§ 147.751 EPA-administered program.

[147.751 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the State of Indiana, including all Indian lands, is administered by EPA. The program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and the additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program on Indian lands is November 25, 1988. The effective date of the UIC program for the rest of Indiana is June 25, 1984.

§ 147.752 Aquifer exemptions. [Reserved]

§ 147.753 Existing Class I, II (Except Enhanced Recovery and Hydrocarbon Storage) and III Wells Authorized by Rule
Maximum injection pressure. The owner or operator shall limit injection pressure to the lessor of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3) (i) or (ii) as applicable; or

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.800 - 0.433 S_g)d$$

where:

P_m = injection pressure at the wellhead in pounds per square inch

S_g = specific gravity of injected fluid (unitless)

d = injection depth in feet.

§ 147.754 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating, provided he submits a request in writing to the Regional Administrator and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirements of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph

(a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within one year of the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b)(1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b)(1) through (3) of this section, as needed to protect USDWs.

§ 147.755 Requirements for all wells.

(a) *Area of review.* Notwithstanding the alternatives presented in § 146.6 of this chapter, the area of review for

Class II wells shall be a fixed radius as described in § 146.6(b) of this chapter.

(b) *Tubing and packer.* The owner or operator of an injection well injecting salt water for disposal shall inject through tubing and packer. The owner or operator of an existing well must comply with this requirement within one year of the effective date of this program.

Subpart Q—Iowa

§ 147.800 State-administered program—
[Reserved]

§ 147.801 EPA-administered program.

[147.801 revised by 52 FR 17680, May 11, 1987]

(a) *Contents.* The UIC program for the State of Iowa, including Indian lands, is administered by EPA. This program consists of the requirements of 40 CFR Parts 124, 144, and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program for all lands in Iowa, including Indian lands, is June 25, 1984.

§ 147.802 Aquifer exemptions. [Reserved]

Subpart R—Kansas

§ 147.850 State-administered program—
Class I, III, IV and V wells.

The UIC program for Class I, III, IV and V wells in the State of Kansas, except those on Indian lands as described in § 147.860, is the program administered by the Kansas Department of Health and Environment, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the *FEDERAL REGISTER* on December 2, 1983 (48 FR 54350); the effective date of this program is December 2, 1983. This program consists of the following elements, as submitted to EPA in the State's program application.

§ 147.851 State-administered program—
Class II wells.

The UIC program for Class II wells in the State of Kansas, except those on Indian lands as described in § 147.860, is the program administered by the Kansas Corporation Commission and the Kansas Department of Health and Environment, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the *FEDERAL REGISTER* on February 8, 1984 (49 FR 4735); the effective date of this program is February 8, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

§§ 147.852—147.859 [Reserved]

§ 147.860 EPA-administered program—
Indian lands.

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Kansas is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146, and additional requirements set forth in the remainder of this subpart. Injection well owners and operators, and EPA, shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Kansas is December 30, 1984.

Subpart S—Kentucky

§ 147.900 State-administered program—
[Reserved]

§ 147.901 EPA-administered program.

[147.901 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the Commonwealth of Kentucky, including all Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144 and 146 and the additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program on Indian lands is November 25, 1988. The effective date for the UIC program in the remainder of Kentucky is June 25, 1984.

§ 147.902 Aquifer exemptions. [Reserved]

§ 147.903 Existing class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3)(i) or (ii) as applicable or;

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g) d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of inject fluid (unitless)

d = injection depth in feet.

§ 147.904 Existing class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may

[Sec. 147.904(a)(1)(ii)]

grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within 1 year of the effective date of this program.

(b) *Casing and Cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between and the casing the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set

forth in paragraphs (b) (1) through (3) of this section, as needed to protect USDWs.

§ 147.905 Requirements for all wells—area of review.

Notwithstanding the alternatives presented in § 146.6 of this chapter, the area of review shall be a minimum fixed radius as described in § 146.6(b) of this chapter.

Subpart T—Louisiana

§ 147.950 State-administered program.

The UIC program for Class I, II, III, IV, and V wells in the State of Louisiana is the program administered by the Louisiana Department of Natural Resources, approved by EPA pursuant to sections 1422 and 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on April 23, 1982 (47 FR 17487); the effective date of this program is March 23, 1982. This program consists of the following elements, as submitted to EPA in the State's program application:

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Louisiana. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Louisiana Revised Statutes Annotated sections 30:1-30:24 (1975 and Supp. 1982);

(2) Underground Injection Control Program Regulations for Class I, III, IV and V Wells, Statewide Order No. 29-N-1 (January 13, 1982);

(3)(i) Statewide Order Governing the Drilling for and Producing of Oil and Gas in the State of Louisiana, Statewide Order No. 29-B (August 26, 1974) (Composite Order Incorporating Amendments through March 1, 1974);

(ii) Amendments to Statewide Order No. 29-B (Off-site Disposal of Drilling Mud and Salt Water Generated from Drilling and Production of Oil and Gas Wells) (effective July 20, 1980);

(iii) Amendment to Statewide Order No. 29-B (Amendment concerning the use of Tables 5A and 6A, etc.) (December 15, 1980, effective January 1, 1981);

(4) (i) Statewide Order adopting rules and regulations pertaining to the use of salt dome cavities (i.e., storage chambers) for storage of liquid and/or gaseous hydrocarbons, etc., Statewide Order No. 29-M (July 6, 1977, effective July 20, 1977);

(ii) Supplement to Statewide Order No. 29-M (October 2, 1978);

(iii) Second Supplement to Statewide Order No. 29-M (June 8, 1979).

(b) (1) The Memorandum of Agreement (Class I, III, IV and V wells) between EPA Region VI and the Louisiana Department of Natural Resources, Office of Conservation, signed by the EPA Regional Administrator on March 17, 1982;

(2) The Memorandum of Agreement (Class II wells) between EPA Region VI and the Louisiana Department of Natural Resources, Office of Conservation, signed by the EPA Regional Administrator on March 17, 1982.

(c) *Statement of legal authority.* (1) Letter from Attorney General of Louisiana to EPA, "Re: Louisiana Underground Injection Control Program Authorization for State of Louisiana" (Class I, III, IV and V Wells), January 13, 1982, (10 pages);

(2) Letter from Attorney General of Louisiana to EPA, "Re: Louisiana Underground Injection Control Program Authorization for State of Louisiana" (Class II Wells), January 13, 1982 (5 pages).

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.951 EPA-administered program—Indian lands.

[147.951 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Louisiana is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date of the UIC program for Indian lands in Louisiana is November 25, 1988.

Subpart U—Maine**§ 147.1000 State-administered program.**

The UIC program for all classes of wells in the State of Maine, except those on Indian lands, is the program administered by the Maine Department of Environmental Protection approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on August 25, 1983 (48 FR 38641); the effective date of this program is September 26, 1983. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.1000 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Louisiana. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Maine Revised Statutes Annotated title 38, sections 361-A, 363-B, 413, 414, 414-A, 420, and 1317-A (1978);

(2) Rules to Control the Subsurface Discharge of Pollutants by Well Injection, Rules of the Department of Environmental Protection, Chapter 543 (adopted June 22, 1983, effective July 4, 1983).

(b) The Memorandum of Agreement between EPA Region I and the Maine Department of Environmental Protection, signed by the EPA Regional Administrator on May 16, 1983.

(c) *Statement of legal authority.* Letter from Attorney General of Maine to EPA Regional Administrator, "Re: Attorney General's Statement: Maine Underground Injection Control Program Primacy Application," June 30, 1983.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.1001 EPA-administered program—Indian lands.

[147.1001 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Maine is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date of the UIC program for Indian lands in Maine is November 25, 1988.

Subpart V — Maryland**§§ 147.1050 — 147.1052 [Reserved]****§ 147.1053 EPA-administered program—Indian lands.**

[147.1053 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Maryland is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Maryland is November 25, 1988.

§§ 147.1054 — 147.1099 [Reserved]**Subpart W—Massachusetts****§ 147.1100 State-administered program.**

The UIC program for all classes of wells in the State of Massachusetts, except those on Indian lands, is the program administered by the Massachusetts Department of Environmental Protection, approved by EPA pursuant to section 1422 of the SDWA. Notice of this ap-

proval was published in the FEDERAL REGISTER on November 23, 1982 (47 FR 52705); the effective date of this program is December 23, 1982. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.1100 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Massachusetts. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Massachusetts General Laws Annotated chapter 21, sections 27, 43, and 44 (West 1981);

(2) Code of Massachusetts Regulations, title 310, sections 23.01-23.11 as amended April 26, 1982.

(b) The Memorandum of Agreement between EPA Region I and the Massachusetts Department of Environmental Quality Engineering, signed by the EPA Regional Administrator on August 18, 1982.

(c) *Statement of legal authority.* "Underground Injection Control Program—Attorney General's Statement for Class I, II, III, IV and V Injection Wells," signed by Assistant Attorney General for Attorney General of Massachusetts, May 13, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.1101 EPA-administered program—Indian lands.

[147.1101 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Massachusetts is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional

[Sec. 147.1101(a)]

requirements set forth in the remainder of this subpart. Injection well owners and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Massachusetts is November 25, 1988.

Subpart X—Michigan

§ 147.1150 State-administered program. [Reserved]

§ 147.1151 EPA-administered program.

[147.1151 revised by 52 FR 17680, May 11, 1987]

(a) *Contents.* The UIC program for the State of Michigan, including all Indian lands, is administered by EPA. This program consists of the program requirements of 40 CFR Parts 124, 144 and 146 and the additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program for all lands in Michigan, including Indian lands, is June 25, 1984.

§ 147.1152 Aquifer exemptions. [Reserved]

§ 147.1153 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3) (i) or (ii) as applicable; or

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.800 - 0.433 S_g)d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of injected fluid (unitless)

d = injection depth in feet.

§ 147.1154 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of

§ 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes field rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(i) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within 1 year following the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage will may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) of this section, as needed to protect USDWs.

§ 147.1155 Requirements for all wells.

(a) *Area of review.* Notwithstanding the alternatives presented in § 146.6 of this chapter, the area of review for Class II wells shall be a fixed radius as described in § 146.6(b) of this chapter.

(b) *Tubing and packer.* The owner or operator of an injection well injecting salt water for disposal shall inject through tubing and packer. The owner of an existing well must comply with this requirement within one year of the effective date of this program.

Subpart Y—Minnesota

§ 147.1200 State-administered program. [Reserved]

§ 147.1201 EPA-administered program.

(a) *Contents.* The UIC program for the State of Minnesota is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146, and additional requirements set forth in the remainder of this subpart. Injection well owners and operators, and EPA, shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Minnesota is: June 11, 1984.

§ 147.1202 Aquifer exemptions. [Reserved]

§ 147.1210 Requirements for Indian Lands.

(a) *Purpose and scope.* This section sets forth additional requirements that apply to injection activities on Indian lands in Minnesota.

(b) *Requirements.* Notwithstanding the other requirements of this subpart, for Indian lands described in paragraph (a) of this section, no owner or operator shall construct, operate, maintain, or convert any Class I, II, III, or IV well. The UIC program for Class V wells on such Indian Lands is administered by EPA, and consists of the applicable requirements of 40 CFR Parts 124, 144, and 146. In addition, no owner or operator shall abandon a well without the approval of the Regional Administrator.

(c) *Effective date.* The effective date of the UIC program requirements for Indian lands in Minnesota is December 30, 1984.

Subpart Z—Mississippi

§ 147.1250 State-administered program—Class I, III, IV, and V wells.

The UIC program for Class I, III, IV and V wells in the State of Mississippi, except those on Indian lands, is the program administered by the Mississippi Department of Natural Resources approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on August 25, 1983 (48 FR 38641); the effective date of this program is September 26, 1983. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.1250 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Mississippi. This incorporation by reference was

approved by the Director of the Federal Register on June 25, 1984.

(1) Mississippi Air and Water Pollution Control Law, Mississippi Code Annotated sections 49-17-1 through 49-17-29 (1972) and Supp. 1983;

(2) Mississippi Department of Natural Resources, Bureau of Pollution Control, Underground Injection Control Program Regulations (adopted February 11, 1982);

(3) Mississippi Department of Natural Resources, Bureau of Pollution Control, State of Mississippi Wastewater Permit Regulations for National Pollutant Discharge Elimination System (NPDES), Underground Injection Control (UIC), and State Operating Permits (adopted May 1, 1974; amended February 11, 1982).

(b) The Memorandum of Agreement between EPA Region IV and the Mississippi Department of Natural Resources, signed by the EPA Regional Administrator on February 8, 1983.

(c) *Statement of legal authority.* (1) Letter from Attorney General of Mississippi (by Special Assistant Attorney General) to Executive Director, Mississippi Department of Natural Resources, "Re: Mississippi Department of Natural Resources, Bureau of Pollution Control, State Underground Injection Control (UIC) Program; Statement of the Attorney General of the State of Mississippi," December 3, 1981;

(2) Letter from Attorney General of Mississippi (by Special Assistant Attorney General) to Executive Director, Mississippi Department of Natural Resources, "Re: Authority to Regulate and Take Samples from: Underground Injection Systems," October 18, 1982;

(3) Letter from Attorney General of Mississippi (by Special Assistant Attorney General) to Regional Administrator, EPA Region IV, "Re: Public Participation in State Enforcement Actions, UIC Program," June 10, 1983.

(d) The Program Description and any other materials submitted as part of the application or supplements thereto.

§ 147.1251 State—Administered Program—Class II Wells.

[147.1251 revised by 53 FR 43086, October 25, 1988; 54 FR 8735, March 2, 1989]

The UIC program for Class II wells in the State of Mississippi, other than those on Indian lands, is the program administered by the State Oil and Gas Board of Mississippi approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the Federal Register on March 2, 1989; the effective date of this program is March 2, 1989. This program consists of the following elements, as submitted to EPA in the State's program application:

(a) Incorporation by reference. The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Mississippi. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a).

(1) Mississippi Code Annotated, section 5-9-9 (Supp. 1988).

(2) Mississippi Code Annotated, sections 53-1-1 through 53-1-47, inclusive and sections 53-1-71 through 53-1-77, inclusive (1972 and Supp. 1988).

(3) Mississippi Code Annotated, sections 53-3-1 through 53-3-165, inclusive (1972 and Supp. 1988).

(4) State Oil and Gas Board Statewide Rules and Regulations, Rules 1 through 65, inclusive (Aug. 1, 1987, as amended, Sept. 17, 1987).

(b) The Memorandum of Agreement between EPA Region IV and the State Oil and Gas Board of Mississippi signed by the Regional Administrator on October 31, 1988.

(c) *Statement of legal authority.* Statement from the Attorney General signed on October 1, 1987 with amendments to the Statement signed

[Sec. 147.1251(c)]

August 5, 1988 and September 15, 1988 by the Special Assistant Attorney General.

(d) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.1252 EPA-administered program—Indian lands.

[147.1252 added by 54 FR 8735, March 2, 1989]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Mississippi is administered by EPA. The program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program on Indian lands is November 25, 1988.

§ 147.1253 — .1254 [Removed]

[147.1253 —.1254 removed by 54 FR 8735, March 2, 1989]

Subpart AA—Missouri

§ 147.1300 State-administered program.

The UIC program for all classes of wells in the State of Missouri, except those on Indian lands, is administered by the Missouri Department of Natural Resources, approved by EPA pursuant to section 1422 and 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on December 2, 1983 (48 FR 54349); the effective date of this program is December 2, 1983. This program consists of the following elements, as submitted to EPA in the State's program application.

[147.1300 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Missouri. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Vernon's Annotated Missouri Statutes sections 259.010 to 259.240 (Supp. 1984);

(2) Missouri Code of State Regulations, title 10, division 50, Chapters 1 and 2 (sections 50-1.010 through 50-2.120) (1982).

(b) The Memorandum of Agreement between EPA Region VII and the Missouri Department of Oil and Gas, signed by the EPA Regional Administrator on December 3, 1982.

(c) *Statement of legal authority.* (1) Opinion Letter No. 63 and attached Memorandum Opinion, signed by Attorney General of Missouri, March 16, 1982;

(2) Addendum to Opinion Letter No. 63 (1982), signed by Attorney General of Missouri, October 28, 1982.

(3) Opinion No. 127-83, signed by Attorney General of Missouri, July 11, 1983.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.1301 State-administered program—Class I, III, IV, and V wells.

[147.1301 revised by 50 FR 28942, July 17, 1987]

The UIC program for Class I, III, IV, and V wells in the State of Missouri, other than those on Indian lands, is the program administered by the Missouri Department of Natural Resources, approved by EPA pursuant to

section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on November 2, 1984; the effective date of this program is July 31, 1985. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Missouri. This incorporation by reference was approved by the Director of the Federal Register effective July 31, 1985.

(1) Revised Statutes of the State of Missouri, Volume 2, sections 204.016, 204.026, 204.051, 204.056 and Volume V, section 577.155 (1978 and Cumm. Supp. 1984);

(2) Missouri Code of State Regulations, title 10, division 20, Chapter 6, sections 20-6.010, 20-6.020, 20-6.070, 20-6.080, 20-6.090, and title 10, division 20, Chapter 7, section 20-7.031 (1977, amended 1984).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference except for select sections identified in paragraph (a) of this section, are also part of the approved State-administered program.

(1) Revised Statutes of the State of Missouri, chapters 204, 260, 536, 557, 558 and 560; sections 640.130.1 and 1.020 (1978 and Cumm. Supp. 1984);

(2) Rule 52.12 Vernon's Annotated Missouri Rules (1978);

(3) Missouri Code of State Regulations, title 10, division 20, Chapters 1 through 7 (1977, amended 1984).

(c) The Memorandum of Agreement between EPA Region VII and the Missouri Department of Natural Resources, signed by the EPA Regional Administrator on October 10, 1984.

(d) *Statement of Legal Authority.* Opinion No. 123-84, signed by Attorney General of Missouri, September 24, 1984. Amended April 2, 1985.

(e) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.1302 Aquifer exemptions. [Reserved]

§ 147.1303 EPA-administered program—Indian lands.

[147.1303 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the State of Missouri for all classes of wells on Indian lands is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for the UIC program for Indian lands is November 25, 1988.

Subpart BB—Montana

§ 147.1350 State-administered program. [Reserved]

§ 147.1351 EPA-administered program.

[147.1351 revised by 52 FR 17680, May 11, 1987]

(a) *Contents.* The UIC program for the State of Montana, including all Indian lands, is administered by EPA. This program consists of the program requirements of 40 CFR Parts 124, 144, and 146 and the additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program on all lands in Montana, including all Indian lands, is June 25, 1984.

§ 147.1352 Aquifer exemptions.

Those portions of aquifers within one-quarter mile of existing Class II

wells are exempted for the purpose of Class II injection activities only.

NOTE: A complete listing of the exemptions and their location is available for review in the EPA Regional Office, 1860 Lincoln Street, Denver, Colorado. An updated list of exemptions will be maintained in the Regional Office.

§ 147.1353 Existing Class I, II (except enhanced recovery hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3)(i) or (ii) as applicable or

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g)d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of inject fluid (unitless)

d = injection depth in feet.

§ 147.1354 Existing class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator established rules for maximum injection pressure based on data provided pursuant to paragraph (ii) below the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within 1 year of the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall when required by the Regional Administrator:

(1) Isolate all USDWs by placing cement between the outermost casing and the well bore as follows:

(i) If the injection well is east of the 108th meridian, cement the outermost casing from a point 50 feet into a major shale formation underlying the uppermost USDW to the surface. For the purpose of this paragraph, major shale formations are defined as the Bearpaw, Clagget, and Colorado formations.

(ii) If the injection well is west of the 108th meridian, cement the outermost casing to a depth of 1,000 feet, or to the base of the lowermost USDW in use as a source of drinking water whichever is deeper. The Regional Administrator may allow an owner or operator to cement to a lesser depth if he can demonstrate to the satisfaction of the Regional Administrator that no USDW will be affected by the injection facilities.

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

[Sec. 147.1354(b)(3)(i)]

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) as needed to protect USDWs.

§ 147.1355 Requirements for all wells.

(a) *Area of review.* Notwithstanding the alternatives presented in § 146.6 of this chapter, the area of review shall be a fixed radius as described in § 146.06(b) of this chapter.

(b) The applicant must give separate notice of intent to apply for a permit to each owner or tenant of the land within one-quarter mile of the site. This requirement may be waived by the Regional Administrator where individual notice to all land owners and tenants would be impractical. The addresses of those to whom notice is given, and a description of how notice was given, shall be submitted with the permit application. The notice shall include:

- (1) Name and address of applicant;
 - (2) A brief description of the planned injection activities, including well location, name and depth of the injection zone, maximum injection pressure and volume, and fluid to be injected;
 - (3) EPA contact person; and
 - (4) A statement that opportunity to comment will be announced after EPA prepares a draft permit.
- (c) Owners and operators on or within one-half mile of Indian lands shall provide notice as specified in paragraph (b) of this section, except that such notice shall be provided within a one-half mile radius of the site.

Subpart CC—Nebraska

§ 147.1400 State-administered program—Class II wells.

The UIC program for Class II wells in the State of Nebraska, except those on Indian lands, is the program administered by the Nebraska Oil and Gas Conservation Commission, approved

by EPA pursuant to section 1425 of the SDWA.

[147.1400 introductory text revised by 52 FR 17680, May 1, 1987]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Nebraska. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Rules and Regulations of the Nebraska Oil and Gas Conservation Commission, Rules 1 through 6 (as published by the Commission, May 1981);

(2) Nebraska Revised Statutes sections 57-903, 57-906 (Reissue 1978).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference except for select sections identified in paragraph (a) of this section, are also part of the approved state-administered program:

(1) Chapter 57, Oil and Gas Conservation, Nebraska Revised statutes sections 57-901 through 57-922 (Reissue 1978).

(c) The Memorandum of Agreement between EPA Region VII and the Nebraska Oil and Gas Conservation Commission, signed by the EPA Regional Administrator on July 12, 1982.

(d) *Statement of legal authority.* (1) "Nebraska Underground Injection Control Program, Attorney General's Statement for Class II Wells," signed by Assistant Attorney General for Attorney General of Nebraska, as submitted with "State of Nebraska Request for Administration of UIC Program," January 23, 1982;

(2) "Re: Nebraska Underground Injection Control Program, Addendum to Attorney General's Statement for Class II Wells," signed by Assistant Attorney General for Attorney General of Nebraska," undated.

(e) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.1401 State administered program—Class I, III, IV and V wells.

The UIC program for Class I, III, IV, and V wells in the State of Nebraska,

except those on Indian lands, is the program administered by the Nebraska Department of Environmental Control, approved by EPA pursuant to section 1422 of the SDWA.

[147.1401 introductory text revised by 52 FR 17680, May 11, 1987]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Nebraska. This incorporation by reference was approved by the Director of the Federal Register effective June 26, 1984.

(1) Nebraska Environmental Protection Act, Revised Statutes of Nebraska sections 81-1502, 81-1506, 81-1519, and 81-1520.

(2) Nebraska Department of Environmental Control, Title 122—Rules and Regulations for Underground Injection and Mineral Production Wells, Effective Date: February 16, 1982, Amended Date: November 12, 1983; as amended by amendment approved by the Governor on March 22, 1984.

(b) *Other laws.* The following statutes and regulations although not incorporated by reference, also are part of the approved State-administered program:

(1) Nebraska Environmental Protection Act, Revised Statutes of Nebraska sections 81-1501 through 81-1533 (1981 and Supp. 1983).

(c)(1) The Memorandum of Agreement between EPA Region VII and the Nebraska Department of Environmental Control, signed by the EPA Regional Administrator on July 12, 1982.

(2) Addendum to Underground Injection Control Memorandum of Agreement signed by the EPA Regional Administrator on July 12, 1982.

(3) Amendments to the Memorandum of Agreement signed by the EPA Regional Administrator on November 22, 1983.

(d) *Statement of legal authority.* (1) "Nebraska Underground Injection Control Program, Attorney General's Statement for Class I, III, IV, and V Wells", signed by Assistant Attorney General for Attorney General of Nebraska, as submitted with "State of Nebraska Request for Administration of UIC Program, January 28, 1982;

(2) Letter from Attorney General (of Nebraska), by Assistant Attorney General, to Director, (Nebraska) Department of Environmental Control, August 7, 1981;

(3) Letter from Attorney General (of Nebraska), by Assistant Attorney General, to Director, (Nebraska) Department of Environmental Control, April 29, 1982;

(4) Letter from Attorney General (of Nebraska), by Assistant Attorney General, to Legal Counsel, (Nebraska) Department of Environmental Control, October 18, 1983.

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.1402 Aquifer exemptions. [Reserved]

§ 147.1403 EPA-administered program—Indian lands.

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Nebraska is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian Lands in Nebraska is June 25, 1984.

Subpart DD—Nevada

§ 147.1450 State-administered program.

[147.1450 added by 53 FR 39089, October 5, 1988]

The UIC program for all classes of underground injection wells in the State of Nevada, other than those on Indian lands, is the program administered by the Nevada Division of Environmental Protection approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the *Federal Register* on February 18, 1988; the effective date of this program is October 5, 1988. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Nevada. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies may be obtained at the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, 201 South Fall Street, Carson City, Nevada 89710.

Copies may be inspected at the Environmental Protection Agency, Region IX, 215 Fremont Street, San Francisco, California 94105, or at the Office of the Federal Register, 1100 L Street N.W., Washington, DC.

(1) Nevada Revised Statutes [NRS], Volume 25, Chapters 445.131 through 445.354, Inclusive, 1987.

(2) Nevada Revised Statutes [NRS], Volume 29, Chapters 534A.010 through 534A.090, Inclusive, 1987.

(3) Nevada Revised Statutes [NRS], Volume 28, Chapters 522.010 through 522.190, Inclusive, 1987.

(4) Nevada Administrative Code [NAC], Underground Injection Control Regulations, Sections 1 through 96.1, Inclusive, July 22, 1987, revised September 3, 1987, (amending NAC Chapter 445).

(5) Nevada Administrative Code [NAC], Regulations and Rules of Practice and Procedure adopted Pursuant to NRS 534A, Sections 1 through 69, Inclusive, November 12, 1985 (amending NAC Chapter 534A).

(6) Nevada Administrative Code [NAC], Regulations and Rules of Practice and Procedure adopted Pursuant to NRS 522.010 through 522.625, Inclusive, July 22, 1987 (amending NAC Chapter 522).

(b) The Memorandum of Agreement between EPA Region 9 and the Nevada Department of Conservation and Natural Resources signed by the EPA Regional Administrator on April 6, 1988.

(c) *Statement of Legal Authority.* Statement and Amendment to the Statement from the Attorney General of the State of Nevada, signed on July 22, 1987 and November 6, 1987 respectively, by the Deputy Attorney General.

(d) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.1451 EPA administered program—Indian lands.

[147.1451 revised by 52 FR 17680, May 11, 1987; 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Nevada is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective Dates.* The effective date of the UIC program for Indian lands in Nevada is June 25, 1984.

§ 147.1452 Aquifer exemptions. [Reserved]

[147.1452 reserved by 53 FR 43086, October 25, 1988]

§ 147.1453 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

- (a) A value which will not exceed the operating requirements of § 144.28(f)(3)(i) or (ii) as applicable; or
(b) A value for well head pressure calculated by using the formula:

$$P_m = (0.733 - 0.433 S_g) d$$

where

P_m = injection pressure at the wellhead in pounds per square inch
 S_g = specific gravity of injected fluid (unitless)
 d = injection depth in feet.

§ 147.1454 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

- (i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is

[Sec. 147.1454(a)(1)(i)]

located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes field rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within one year following the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) of this section, as needed to protect USDWs.

Subpart EE—New Hampshire

§ 147.1500 State-administered program.

The UIC program for all classes of wells in the State of New Hampshire, except those on Indian lands, is the program administered by the New Hampshire Water Supply and Pollution Control Commission, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the *Federal Register* on September 21, 1982 (47 FR 41561); the effective date of this program is October 21, 1982. This program consists of the following elements:

[147.1500 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of New Hampshire. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) New Hampshire Revised Statutes Annotated section 149:8 III(a) (1978);

(2) New Hampshire Code of Administrative Rules, Part Wc 410 (Protection of Groundwaters of the State, sections Ws 410.1 through Ws 410.16) (Issue Ws 3-82).

(b)(1) The Memorandum of Agreement between EPA Region I and the

New Hampshire Water Supply and Pollution Control Commission, signed by the EPA Regional Administrator on August 23, 1982;

(2) Amendment No. 1 to the Memorandum of Agreement, signed by the EPA Regional Administrator on July 16, 1982.

(c) *Statement of legal authority.* (1) Letter from Attorney General of New Hampshire to Regional Administrator, EPA Region I, "Re: Attorney General's Statement—Underground Injection Control Program," March 23, 1982;

(2) Letter from Attorney General of New Hampshire to Regional Administrator, EPA Region I, "Re: Attorney General's Statement—Underground Injection Control Program," July 1, 1982.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.1501 EPA-administered program—Indian lands.

[147.1501 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in New Hampshire is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in New Hampshire is November 25, 1988.

Subpart FF—New Jersey

§ 147.1550 State-administered program.

The UIC program for all classes of wells in the State of New Jersey, except those on Indian lands, is the program administered by the New Jersey Department of Environmental Protection, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the *Federal Register* on July 15, 1983 (48 FR 32343); the effective date of this program is August 15, 1983. This program consists of the following

elements, as submitted to EPA in the State's program application.

[147.1550 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of New Jersey. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Water Pollution Control Act, New Jersey Statutes Annotated sections 58:10A-1 through 58:10A-14 (1982);

(2) Regulations Concerning the New Jersey Pollutant Discharge Elimination System, New Jersey Administrative Code sections 7:14A-1.1 through 7:14A-2.1 through 7:14A-5.1 through 7:14A-5.18 (subchapter 5), and 7:14A-10.13 (as published by the State of New Jersey Department of Environmental Protection, March 1981).

(b)(1) The Memorandum Agreement between EPA Region II and the New Jersey Department of Environmental Protection, signed by the EPA Regional Administrator on September 9, 1982;

(2) Letter from Commissioner, New Jersey Department of Environmental Protection, to Regional Administrator, EPA Region II, March 21, 1983.

(c) *Statement of legal authority.* (1) Letter from Attorney General of New Jersey (by Deputy Attorney General) to Commissioner, Department of Environmental Protection, "Re: New Jersey Pollutant Discharge Elimination System—Underground Injection Control," February 9, 1982;

(2) Letter from Attorney General of New Jersey (by Deputy Attorney General) to Commissioner, Department of Environmental Protection, "Re: New Jersey Pollutant Discharge Elimination System—Underground Injection Control," April 15, 1983 (six pages);

(3) Letter from Attorney General of New Jersey (by Assistant Attorney General) to Commissioner, Department of Environmental Protection, "Re: New Jersey Pollutant Discharge Elimination System—Underground Injection Control," April 15, 1983 (two pages).

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§147.1551 EPA-administered program — Indian lands.

[147.1551 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in New Mexico is administered by EPA. The program consists of the requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program on Indian lands in New Mexico is November 25, 1988.

Subpart GG—New Mexico

§147.1600 State-administered program—Class II wells.

The UIC program for Class II wells in the State of New Mexico, except for those on Indian lands, is the program administered by the New Mexico Energy and Minerals Department, Oil Conservation Division, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on February 5, 1982 (47 FR 5412); the effective date of this program is March 7, 1982. This program consists of the following elements as submitted to EPA in the State's program application: [147.1600 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of New Mexico. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Oil and Gas Act, New Mexico Statutes Annotated sections 70-2-1 through -36 (1978);

(2) *State of New Mexico Energy and Mineral Department, Oil Conservation Division—Rules and Regulations* (dated 10-1-78), sections B-3, I-701 through I-708, M-1100 through M-1121.

(b)(1) The Memorandum of Agreement between EPA Region VI and the New Mexico Energy and Minerals Department, Oil Conservation Division, signed by the EPA Regional Administrator on December 10, 1981;

(2) Addendum No. 1 to the Memorandum of Agreement, signed by the EPA Regional Administrator on June 28, 1982;

(3) Addendum No. 2 to the Memorandum of Agreement, signed by the EPA Regional Administrator on November 18, 1982;

(4) Letter from Director, Oil Conservation Division, New Mexico Energy and Minerals Department, and Assistant Attorney General of New Mexico, to Regional Administrator, EPA Region VI, November 6, 1981.

(c) *Statement of legal authority.* "Statement of Legal Authority of the State of New Mexico by and through its Oil Conservation Division of the Energy and Mines Department to conduct an Underground Injection Control Program," signed by Assistant Attorney General and General Counsel to the Oil Conservation Division.

(d) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§147.1601 State-administered program—Class I, III, IV and V wells.

The UIC program for Class I, III, IV and V injection wells in the State of New Mexico, except for those on Indian lands, is the program administered by the New Mexico Water Quality Control Commission, the Environmental Improvement Division, and the Oil Conservation Division, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on July 11, 1983 (48 FR 31640); the effective date of this program is August 10, 1983. This program consists of the following elements, as submitted to EPA in the State's program application: [147.1601 introductory text amended by 53 FR 43086, October 25, 1988]

[Sec. 147.1601]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of New Mexico. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) New Mexico Water Quality Control Commission Regulations (WQCC 82-1) sections 1-100 through 5-300 (September 20, 1982).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, are also part of the approved State-administered UIC program:

(1) Water Quality Act, New Mexico Statutes Annotated sections 74-6-1 through 74-6-13 (1978 and Supp. 1982);

(2) Geothermal Resources Conservation Act, New Mexico Statutes Annotated sections 71-5-1 through 71-5-24 (1978 and Supp. 1982);

(3) Surface Mining Act, New Mexico Statutes Annotated sections 69-25A-1 through 69-25A-35 (1978 and Supp. 1980).

(c)(1) The Memorandum of Agreement between EPA Region VI and the New Mexico Water Quality Control Commission, the Environmental Improvement Division, and the Oil Conservation Division, signed by the EPA Regional Administrator on April 13, 1983;

(2) Letter from the Director, Environmental Improvement Division and the Director, Oil Conservation Division, to Regional Administrator, EPA Region IV, "Re: New Mexico Underground Injection Control Program—Clarification," February 10, 1983.

(d) *Statement of legal authority.* "Attorney General's Statement," signed by the Assistant Attorney General for the Environmental Improvement Division, the Assistant Attorney General for Oil Conservation Division, and the Deputy Attorney General, Civil Division, Counsel for the Mining and Minerals Division, undated, submitted December 8, 1982.

(e) The Program Description and any other materials submitted as part of the application or as supplements thereto.

[147.1603 EPA-administered program — Indian lands.

[147.1603 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in New Mexico is administered by EPA. The program consists of the requirements set forth at Subpart HHH of this part. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in New Mexico is November 25, 1988.

Subpart HH—New York

§ 147.1650 State-administered program. [Reserved]

§ 147.1651 EPA-administered program.

[147.1651 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the State of New York, including all Indian lands, is administered by EPA. The program consists of the UIC program requirements in 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date of the UIC program for New York for all injection activities except those on lands of the Seneca Indian Tribe is June 25, 1984. The effective date for the UIC program for the lands of the Seneca Indian Tribe is November 25, 1988.

[147.1651(b) corrected by 54 FR 10616, March 14, 1989]

§ 147.1652 Aquifer exemptions.

(a) This section identifies any aquifer or their portions exempted in accordance with §§ 144.7(b) and 146.4 of this chapter at the time of program promulgation. EPA may in the future exempt other aquifers or portions, according to applicable procedures, without codifying such exemptions in this section. An updated list of exemptions

will be maintained in the Regional office.

(b) The following portions of aquifers are exempted in accordance with the provisions of § 144.7(b) and § 146.4 of this chapter for Class II injection activities only:

(1) The Bradford First, Second, and Third Sand Members and the Kane Sand Member in the Bradford Field in Cattaraugus County.

(2) The Chipmunk Oil field in Cattaraugus County.

§ 147.1653 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3)(i) or (ii) as applicable; or
(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g)d$$

where

P_m = injection pressure at the well head in pounds per square inch
 S_g = specific gravity of inject fluid (unitless)
 d = injection depth in feet.

§ 147.1654 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure, or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and

demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within one year of the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(iii) For wells as described in § 146.8(b)(3)(ii), installing a smaller diameter pipe inside the existing injection tubing and setting it on an appropriate packer; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing

and the well bore to a point 50 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) of this section as needed to protect USDWs.

§ 147.1655 Requirements for wells authorized by permit.

(a) The owner or operator of a Class I well authorized by permit shall install or shall ensure that the well has:

(1) Surface casing present;

(i) Extending from the surface to a depth at least 50 feet below the base of the lowermost USDW; and

(ii) Cemented back to the surface by recirculating the cement; and

(2) Long string casing and tubing;

(i) Extending to the injection zone; and

(ii) Cemented back to 50 feet above the base of the next largest casing string.

(b) The owner or operator of a new Class II well authorized by permit shall:

(1) Install surface casing from the surface to at least 50 feet below the base of the lowermost USDW.

(2) Cement the casing by recirculating to the surface or by using no less than 120% of the calculated annular volume.

(3) For new enhanced recovery wells, install tubing or long string casing extending to the injection zone.

(4) For new salt water disposal wells, install long string casing and tubing extending to the injection zone.

(5) Isolate any injection zone by placing sufficient cement to fill the calculated volume to a point 50 feet above the injection zone.

(c) The Regional Administrator may specify casing and cementing requirements other than those listed in para-

graphs (a) and (b) of this section on a case by case basis as conditions of the permit.

§147.1660 [Removed]

[147.1660 removed by 53 FR 43086, October 25, 1988]

Subpart II—North Carolina

§§147.1700 — 147.1702 [Reserved]

§ 147.1703 EPA-administered program—Indian lands.

[147.1703 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in North Carolina is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in North Carolina is November 25, 1988.

§§147.1704 — 147.1749 [Reserved]

Subpart JJ—North Dakota

§ 147.1750 State-administered program—Class II wells.

The UIC program for Class II wells in the State of North Dakota, except those on Indian lands, is the program administered by the North Dakota Industrial Commission, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on August 23, 1983 (48 FR 38237); the effective date of this program is September 24, 1983. This program consists of the following elements, as submitted to EPA in the State's program application.

[Sec. 147.1750]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of North Dakota. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) North Dakota Century Code sections 38-08-05 (Supp. 1983);

(2) North Dakota Administrative Code, Chapter 43-02-05 (Underground Injection Control, sections 43-02-05-01 through -14 as published in *Statutes and Rules for the Conservation of Oil and Gas*, North Dakota Industrial Commission, January 1, 1983);

(b) The Memorandum of Agreement between EPA Region VIII and the North Dakota Industrial Commission, Oil and Gas Division, signed by the EPA Regional Administrator on June 16, 1983.

(c) *Statement of legal authority.* "Underground Injection Control Program Attorney General's Statement," as submitted with the North Dakota Underground Injection Control Program Primacy Application for Class II Injection Wells, transmitted by the Governor on July 15, 1982 (16 pages).

(d) The Program Description and other materials submitted as part of the application or as supplements thereto.

**§ 147.1751 State-administered program—
Class I, III, IV and V wells.**

The UIC program for Class I, III, IV, and V wells in the State of North Dakota, except those on Indian lands, is the program administered by the North Dakota Department of Health, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on September 21, 1984; the effective date of this program is October 5, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of North Dakota. This incorporation by reference was

approved by the Director of the Federal Register effective October 5, 1984.

(1) North Dakota Century Code Sections 38-12-01, 38-12-03 (1980);

(2) North Dakota Century Code Sections 61-28-02, 61-28-06 (Supp. 1981);

(3) North Dakota Administrative Code Sections 33-25-01-01 through 33-25-01-18 (North Dakota State Health Department Underground Control Program) (1983);

(4) North Dakota Administrative Code Sections 43-02-02-01, 43-02-02-12, 43-02-02-16 through 43-02-02-26, 43-02-02-29, 43-02-02-31, 43-02-02-35 (North Dakota Geological Survey Sub-surface Mineral Exploration and Development) (1978);

(5) North Dakota Administrative Code Sections 43-02-02-1-01 through 43-02-02-1-18 (North Dakota Geological Survey—Underground Injection Control Program) (1984);

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, also are part of the approved State-administered program;

(1) North Dakota Environmental Law Enforcement Act of 1975, North Dakota Century Code Sections 32-40-01 to 32-40-11 (1976);

(2) North Dakota Century Code, Ch. 38-12 (Regulation, Development, and Production of Subsurface Minerals) (1979);

(3) North Dakota Century Code Ch. 61-28 (Control, Prevention, and Abatement of Pollution of Surface Waters) (1981);

(4) North Dakota Administrative Code Article 33-22 (Practice and Procedure) (1983).

(c) The Memorandum of Agreement between EPA Region VIII and the North Dakota Department of Health, signed by the EPA Regional Administrator on May 18, 1984.

(d) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

**§ 147.1752 EPA-administered program—
Indian lands.**

[147.1752 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in North Dakota is administered by EPA. This

program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in North Dakota is November 25, 1988.

Subpart KK—Ohio

**§ 147.1800 State-administered program—
Class II wells.**

The UIC program for Class II wells in the State of Ohio, except for those on Indian lands, is the program administered by the Ohio Department of Natural Resources, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on August 23, 1983 (48 FR 38238); the effective date of this program is September 22, 1983. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.1800 amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Ohio. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Ohio Revised Code Annotated, sections 1509.01 through 1509.22 (Page 1978 and Supp. 1982);

(2) Rules of the Division of Oil and Gas, Ohio Administrative Code sections 1501:91-01, through 1501:9-11-13 (1983).

(b) The Memorandum of Agreement between EPA Region V and the Ohio Department of Natural Resources.

(c) *Statement of legal authority.* "Underground Injection Control Program—Attorney General's Statement," signed by the Assistant Attorney General, Chief, Environmental Law Section, for the Attorney General of Ohio, September 30, 1982.

(d) The Program Description and any other materials submitted as part

[Sec. 147.1800(d)]

of the application or as supplements thereto.

**§ 147.1801 State-administered program—
Class I, III, IV and V wells.**

The UIC program for Class I, III, IV, and V wells in the State of Ohio, other than those on Indian lands, is the program administered by the Ohio Department of Natural Resources and the Ohio Environmental Protection Agency, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on November 29, 1984; the effective date of this program is January 14, 1985. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Ohio. This incorporation by reference was approved by the Director of the FEDERAL REGISTER effective January 14, 1985.

(1) Ohio Revised Code Annotated, sections 1509.01, 1509.03, 1509.221 (Supp. 1983);

(2) Rules of the Division of Oil and Gas, Ohio Administrative Code, sections 1501:9-7-01 through 7-14 (1984);

(3) Ohio Revised Code Annotated, sections 6111.04, 6111.043, 6111.044 (Supp. 1983);

(4) Rules of the Ohio Environmental Protection Agency, Ohio Administrative Code, sections 3745-34-01 through 34-41; 3745-9-01 through 9-11 (Director Ohio EPA Order, June 18, 1984).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, also are part of the approved State-administered program:

(1) Ohio Revised Code, Chapter 119 (1978 Replacement Part);

(2) Ohio Code Supplement, §§ 6111.041, 6111.042, 6111.045 (Supp. 1982).

(c) (1) The Memorandum of Agreement between EPA Region V and the Ohio Department of Natural Resources, signed by the EPA Regional Administrator on March 30, 1984;

(2) Memorandum of Agreement between the Ohio Department of Natural Resources and the Ohio Environ-

mental Protection Agency, Related to the Underground Injection Control Program for the State of Ohio, signed August 1, 1984.

(d) *Statement of legal authority.* Statement from Attorney General of the State of Ohio, by Senior Assistant Attorney General, "Underground Injection Control Program—Attorney General's Statement," July 25, 1984.

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.1802 Aquifer exemptions. [Reserved]

§ 147.1803 Existing Class I and III wells authorized by rule. Maximum injection pressure.

The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3)(i); or

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.8 - 0.433 S_g) d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of injected fluid (unitless)

d = injection depth in feet.

**§ 147.1805 EPA-administered program—
Indian lands.**

[147.1805 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Ohio is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Ohio is November 25, 1988.

Subpart LL—Oklahoma

**§ 147.1850 State-administered program—
Class I, III, IV, and V wells.**

The UIC program for Class I, III, IV, and V wells in the State of Oklahoma, except those on Indian lands, is the program administered by the Oklahoma State Department of Health, approved by EPA pursuant to SDWA section 1422. Notice of this approval was published in the FEDERAL REGISTER on June 24, 1982 (47 FR 27273). The effective date of this program is July 24, 1982. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.1850 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Oklahoma. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Oklahoma Statutes title 63 sections 1-901, 1-903 (1981);

(2) Oklahoma Controlled Industrial Waste Disposal Act, Oklahoma Statute Annotated title 63 sections 1-2002, 1-2014 (West Supp. 1983-1984);

(3) *Regulations.* [Reserved]

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference except for select sections identified in paragraph (a) of this section, are also part of the approved State-administered UIC program:

(1) Oklahoma Open Meeting Act, Oklahoma Statutes title 25 sections 301 through 314 (Supp. 1978);

(2) Oklahoma Statutes Annotated title 63 sections 1-101 to 1-114, 1-901 to 1-911, 1-1601 *et seq.*, 1-1701, 1-2001 to 1-2014 (West 1973 and Supp. 1982);

(3) Oklahoma Statutes Annotated title 75 sections 301 to 327 (West 1976 and Supp. 1982).

(c) (1) The Memorandum of Agreement between EPA Region VI and the Oklahoma State Department of Health, signed by the EPA Regional Administrator on April 13, 1982;

(2) Memorandum of Understanding between the Oklahoma State Department of Health and the Oklahoma Corporation Commission (OCC), signed by members of the OCC on February 12, 1982;

[Sec. 147.1850(c)(2)]

(3) Memorandum of Understanding between the Oklahoma State Department of Health and the Oklahoma Department of Mines (ODM), signed by the Deputy Chief Mine Inspector, ODM, on February 15, 1982.

(d) *Statement of legal authority.* Letter from Attorney General of Oklahoma to Commissioner of Health, Oklahoma State Department of Health, "Re: Statement and Memorandum of Law Concerning the Authority for the Oklahoma State Department of Health's Underground Injection Control Program," February 12, 1982.

(e) The Program Description and any other materials submitted as part of the application or as supplements thereto.

**§ 147.1851 State-administered program—
Class II wells.**

The UIC program for Class II wells in the State of Oklahoma, including the lands of the Five Civilized Tribes, but not including those on other Indian lands, is the program administered by the Oklahoma Corporation Commission approved by EPA pursuant to SDWA section 1425. Notice of this approval was published in the FEDERAL REGISTER on December 2, 1981 (46 FR 58588). This program consists of the following elements, as submitted to EPA in the State's program application:

[147.1851 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* [Reserved]

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, are also part of the approved State-administered UIC program:

(1) Oklahoma Statutes, title 17 sections 51-53; title 52 sections 86.1-86.5, 139-153, 243, 307-318.1 (1971).

(2) OCC-OGR Rules No. 1-101-3-303.

(c) (1) The Memorandum of Agreement between EPA Region VI and the Oklahoma Corporation Commission, signed by the EPA Regional Administrator on April 13, 1981;

(2) Letter from the Manager, Underground Injection Control, Oklahoma Corporation Commission, to EPA, June 18, 1981.

(d) *Statement of legal authority.* "Statement of Legal Authority of the Oklahoma Corporation Commission to Conduct an Underground Injection Control Program," (Part IV, pages 30-41 of "State of Oklahoma Primacy Application for Authority to Regulate Class II Injection Wells," submitted April 14, 1981), signed by the Conservation Attorney, Counsel to the Director and the Oklahoma Corporation Commission.

(e) The Program Description and any other materials submitted as part of the application or as supplements thereto.

**§ 147.1852 EPA-administered program—
Indian lands.**

[147.1852 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all wells on Indian lands in Oklahoma, except Class II wells on the lands of the Five Civilized Tribes, is administered by EPA. The UIC program for Class II wells on the Osage Mineral Reserve consists of the requirements set forth in Subpart GGG of this part. The UIC program for all other wells on Indian lands consists of the requirements set forth in Subpart III of this part. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for UIC program for Class II wells on the Osage Mineral Reserve is December 30, 1984. The effective date for the UIC program for all other wells on Indian lands is November 25, 1988.

Subpart MM—Oregon

§ 147.1900 State-administered program.

[147.1900 heading and introductory text amended by 53 FR 43086, October 25, 1988]

The UIC program for all classes of wells in Oregon, except those on Indian lands, is administered by the Oregon Department of Environmental Quality, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on September 25, 1984; the effective date

of this program is October 9, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Oregon. This incorporation by reference was approved by the Director of the FEDERAL REGISTER effective October 9, 1984.

(1) Oregon Revised Statutes, Title 16, chapter 164, section 164.785; Title 36, chapter 468, sections 468.005, 468.065 to 468.070, 468.700 to 468.815; Title 43, chapter 520 sections 520.005, 520.095, 520.155—520.330 (1983);

(2) Oregon Administrative Rules, 340 Division 44 sections 340-44-005 to 340-44-055 October 1983, 340-45-005 to 340-45-070 (June 1980); Ch. 632 sections 632-10-002 to 632-10-235 (Dated October 1982); 632-20-005 to 632-20-159; 632-20-170 to 632-20-180 (January 1981).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, also are part of the approved State-administered program:

(1) Oregon Revised Statutes, Chapter 183; 192.420, 192.500, 459.460(3), 468.005-468.605, 468.780-468.997; Chapters 516, 522 (1983);

(2) Oregon Administrative Rules, chapter 137, Div. 3 (July 1982); chapter 340, Div. 11 (November, 1983); chapter 340, Div. 14 (November, 1983); chapter 340, Div. 52 (November 1983); chapter 632, Div. 1 (June 1980); Ch. 632, Div. 20 (January 1981);

(c)(1) The Memorandum of Agreement between EPA Region X and the Oregon Department of Environmental Quality, signed by the EPA Regional Administrator on May 3, 1984.

(d) *Statement of legal authority.*

(1) "Underground Injection Control Program Legal Counsel's Statement," October 1983, signed by the Assistant Attorney General, Oregon;

(2) Opinion of the Attorney General, Oregon, 35 Op. Attorney General 1042 (1972).

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

[Sec. 147.1900(e)]

§ 147.1901 EPA-administered program—
Indian lands.

[147.1901 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Oregon is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Oregon is November 25, 1988.

Subpart NN—Pennsylvania

§ 147.1950 State-administered program.
[Reserved]

§ 147.1951 EPA-administered program.

[147.1951 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the State of Pennsylvania, including all Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and the additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program on Indian lands is November 25, 1988. The effective date for the UIC program for the rest of Pennsylvania is June 25, 1984.

§ 147.1952 Aquifer exemptions.

(a) This section identifies any aquifers or their portions exempted in accordance with §§ 144.7(b) and 146.4 of this chapter at the time of program promulgation. EPA may in the future exempt other aquifers or portions, according to applicable procedures, without codifying such exemptions in this section. An updated list of exemptions will be maintained in the Regional office.

(b) Those portions of the following oil bearing aquifers, which would otherwise meet the definition of a USDW,

are exempted in accordance with the provisions of §§ 144.7(b) and 146.4 of this chapter for Class II enhanced recovery injection activities only.

(1) The Sugar Run and Bradford series of oil producing sands of the Bradford Field, in McKean County; including the Bradford, West Branch, Stack, Bennett Brook, Marilla Brook, Brooder Hollow, Cyclone, Minard Run, Minard Run School, and Sugar Run (or Watsonville) Pools.

(2) The Bradford Third oil producing sand of the Guffey Field in McKean County.

(3) The Bradford series of oil producing sands of the Lewis Run Field in McKean County.

(4) The Bradford series of oil producing sands of the Windfall Field and Kings Run Pool in McKean County.

(5) The Red Valley member of the Second Sand formation of the Venango Group of oil producing sands in the Foster-Reno Field in Venango County; including the Foster, Bully Hill, Victory, Bredinsburg, Egypt Corners, Reno, Monarch Park and Seneca Pools.

(6) The Glade and Clarendon oil producing sands of the Morrison Run Field and Elk Run Pool in Warren County.

(7) The Clarendon and Glade oil producing sands of the Clarendon Field in Warren County.

(8) The Bradford Third oil producing sand in the Shinglehouse Field, including the Kings Run, Janders Run and Ceres Pools in Potter and McKean Counties.

§ 147.1953 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

- (a) A value which will not exceed the operating requirements of § 144.28(f)(3) (i) or (ii) as applicable or
(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g) d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of injection fluid (unitless)

d = injection depth in feet.

§ 147.1954 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The information shall be submitted to the Regional Administrator within one year of the effective date of this regulation.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hy-

[Sec. 147.1954(b)]

drocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:
(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(iii) For wells as described in § 146.8(b)(3)(ii), installing a smaller diameter pipe inside the existing injection tubing and setting it on an appropriate packer; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 50 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) of this section as needed to protect USDWs.

§ 147.1955 Requirements for wells authorized by permit.

(a) The owner or operator of a Class I well authorized by permit shall install or shall ensure that the well has:

(1) Surface casing present;

(i) Extending from the surface to a depth at least 50 feet below the base of the lowermost USDW, and

(ii) Cemented back to the surface by recirculating the cement; and

(2) Long string casing and tubing;

(i) Extending to the injection zone; and

(ii) Cemented back to 50 feet above the base of the next largest casing string.

(b) The owner or operator of a new Class II well authorized by permit shall:

(1) Install surface casing from the surface to at least 50 feet below the base of the lowermost USDW.

(2) Cement the casing by recirculating to the surface or by using no less than 120% of the calculated annular volume.

(3) For new enhanced recovery wells, install tubing or long string casing extending to the injection zone.

(4) For new salt water disposal wells, install long string casing and tubing extending to the injection zone.

(5) Isolate any injection zone by placing sufficient cement to fill the calculated volume to a point 50 feet above the injection zone.

(c) The Regional Administrator may specify casing and cementing requirements other than those listed in paragraphs (a) and (b) of this section on a case by case basis as conditions of the permit.

Subpart OO—Rhode Island

§ 147.2000 State-administered program.

[147.2000 heading and introductory text amended by 53 FR 43086, October 25, 1988]

The UIC program for all classes of wells in Rhode Island, except those on Indian lands, is the program administered by the Rhode Island Department of Environmental Management, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the *Federal Register* on August 1, 1984; the effective date of this program is August 15, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Rhode Island. This incorporation by reference was approved by the Director of the Federal Register effective August 15, 1984.

(1) Rhode Island Gen. Laws sections 46-12-1, 46-12-5, and 46-12-28 (Supp. 1983);

(2) "Underground Injection Control Program Rules and Regulations."

State of Rhode Island and Providence Plantations Department of Environmental Management, Division of Water Resources (as received by the Secretary of State, May 21, 1984).

(b) *Other laws.* The following statutes and regulations although not incorporated by reference, also are part of the approved State-administered program:

(1) Rhode Island General Laws, Section 10-20-1 *et seq.*, entitled "State Environmental Rights";

(2) Rhode Island General Laws, Section 23-19.1-1 *et seq.*, entitled "Hazardous Waste Management";

(3) Rhode Island General Laws, Section 42-17.1 *et seq.*, entitled "Department of Environmental Management";

(4) Rhode Island General Laws, Section 42-35-1 *et seq.*, entitled "Administrative Procedures";

(5) Rhode Island General Laws, Section 46-12-1 *et seq.*, entitled "Water Pollution";

(6) Hazardous Waste Management Facility Operating Permit Rules and Regulations—Landfills, at last amended November 2, 1981 (hereinafter referred to as the "Hazardous Waste Regulation");

(7) Water Quality Regulations for Water Pollution Control, effective November 19, 1981; and

(8) Administrative Rules of Practices and Procedure for Department of Environmental Management, effective November 12, 1980.

(c) (1) The Memorandum of Agreement between EPA Region I and the Rhode Island Department of Environmental Management, signed by the EPA Regional Administrator on March 29, 1984;

(2) Letter from Director, Rhode Island Department of Environmental Management, to Regional Administrator, EPA Region I, amending Section III, C of the Memorandum of Agreement, April 25, 1984.

(d) *Statement of legal authority.* Letter from Attorney General, State of Rhode Island and Providence Plantations, to Regional Administrator, EPA Region 1, "Re: Attorney General's Statement, Underground Injection Control Program," January 17, 1984.

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

[Sec. 147.2000(e)]

**§ 147.2001 EPA-administered program—
Indian lands.**

[147.2001 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Rhode Island is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Rhode Island is November 25, 1988.

Subpart PP—South Carolina**§ 147.2050 State-administered program.**

[147.2050 heading and introductory text amended by 53 FR 43086, October 25, 1988]

The UIC program for all classes of wells in the State of South Carolina, except for those on Indian lands, is the program administered by the South Carolina Department of Health and Environmental Control, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the Federal Register on July 10, 1984; the effective date of this program is July 24, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of South Carolina. This incorporation by reference was approved by the Director of the Federal Register effective July 24, 1984.

(1) Pollution Control Act, S.C. Code Ann. Sections 48-1-10, 48-1-90, 48-1-100, 48-1-110 (Law. Co-op. 1976 and Supp. 1983).

(2) South Carolina Department of Health and Environmental Control, Ground-Water Protection Division, Underground Injection Control Regulations, R-61-87, Effective Date: June 24, 1983 Published in South Carolina State Register, Volume 7, Issue 6; Amended Date: March 23, 1984, as amended by notice in South Carolina State Register, Volume 8, Issue 3.

(b) *Other laws.* The following statutes and regulations although not incorporated by reference, also are part of the approved State-Administered program:

(1) Pollution Control Act, S.C. Code Ann. Sections 48-1-10 to 48-1-350 (Law. Co-op. 1976 and Supp. 1983).

(2) State Safe Drinking Water Act, S.C. Code Ann. Sections 44-55-10 to 44-55-100 (Law. Co-op. 1976 and Supp. 1983).

(3) Administrative Procedures Act, S.C. Code Ann. Sections 1-23-10 et seq., and 1-23-310 to 1-23-400 (Law. Co-op. 1976 and Supp. 1983).

(4) S.C. Code Ann. Sections 15-5-20, 15-5-200 (Law. Co-op. 1976 and Supp. 1983).

(c)(1) The Memorandum of Agreement between EPA Region IV and the South Carolina Department of Health and Environmental Control signed by the EPA Regional Administrator on May 29, 1984.

(d) *Statement of legal authority.* (1) "Underground Injection Control Program, Attorney General's Statement for Class I, II, III, IV and VA and VB Wells," signed by the Attorney General of South Carolina on April 27, 1984.

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

**§ 147.2051 EPA-administered program—
Indian lands.**

[147.2051 added by 53 FR 43086 October, 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in South Carolina is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146, and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and

EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in South Carolina is November 25, 1988.

Subpart QQ—South Dakota**§ 147.2100 State-administered program—
Class II wells.**

[147.2100 corrected by 50 FR 7060, February 20, 1985]

The UIC program for Class II wells in the State of South Dakota, except those on Indian lands, is the program administered by the South Dakota Department of Water and Natural Resources, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on October 24, 1984; the effective date of this program is December 7, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of South Dakota. This incorporation by reference was approved by the Director of the Federal Register effective December 7, 1984.

(1) South Dakota Codified Laws, sections 45-9-2, 45-9-4, 45-9-11, 45-9-13, 45-9-14, 45-9-15 (1983).

(2) Administrative Rules of South Dakota, sections 74:10:02 through 74:10:11 (inclusive) (1982).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, also are part of the approved State-administered program:

(1) South Dakota Codified Laws, Chapter 45-9 (sections not cited above) (1983); 1-26 (1981).

(c)(1) The Memorandum of Agreement between EPA Region VIII and the South Dakota Department of Water and Natural Resources, signed by the EPA Regional Administrator on July 18, 1984.

(d) *Statement of legal authority.* (1) "Underground Injection Control Program for Class II Wells: Attorney Gen-

[Sec. 147.2100(d)(1)]

eral's Statement," signed by Mark V. Meierhery, Attorney General, South Dakota, on January 16, 1984.

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.2101 EPA-administered program.

[147.2101 revised by 52 FR 17680, May 11, 1987]

(a) *Contents.* The UIC program for all Class I, III, IV and V wells, including those on Indian lands, and for Class II wells on Indian lands in the State of South Dakota is administered by EPA. This program consists of 40 CFR Parts 124, 144 and 146 and additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Class I, III, IV and V wells on all lands in South Dakota, including Indian lands, and for Class II wells on Indian lands only, is December 30, 1984.

§ 147.2102 Aquifer exemptions.

(a) This section identifies any aquifers or their portions exempted in accordance with §§ 144.7(b) and 146.4 of this chapter at the time of program promulgation. EPA may in the future exempt other aquifers or their portions, according to applicable procedures, without codifying such exemptions in this section. An updated list of exemptions will be maintained in the Regional office.

(b) Those portions of all aquifers located on Indian Lands, which meet the definition of USDW and into which existing Class II wells are injecting, are exempted within a ¼ mile radius of the well for the purpose of Class II injection activities only.

§ 147.2103 Existing Class II enhanced recover and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comments, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at a pressure greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii)(A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes field rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit to the Regional Administrator data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirement of §§ 144.28(e) and 146.22, the owner or operator shall when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operation pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone; and/or

(4) Comply with other requirements which the Regional Administrator may specify in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) of this section as needed to protect USDWs.

(The information collection requirements contained in paragraph (a)(2)(ii) were approved by the Office of Management and Budget under control number 2040-0042)

§ 147.2104 Requirements for all wells.

(a) The owner or operator converting an existing well to an injection well shall check the condition of the casing with one of the following logging tools:

- (1) A pipe analysis log; or
- (2) A caliper log.

(b) The owner or operator of a new injection well cased with plastic (PVC, ABS, or others) casings shall:

(1) Not construct a well deeper than 500 feet;

(2) Use cement and additives compatible with such casing material; and

(3) Cement the annular space above the injection internal from the bottom of the blank casing to the surface.

(c) The owner or operator of a newly drilled well shall install centralizers as directed by the Regional Administrator.

(d) The owner or operator shall as required by the Regional Administrator:

(1) Protect USDWs by:

(i) Setting surface casing 50 feet below the lowermost USDW;

(ii) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

[Sec. 147.2104(d)(1)(ii)]

(iii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure; and

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may approve alternate casing and cementing practices provided that the owner or operator demonstrates that such practices will adequately protect USDWs.

(e) *Area of review.* Notwithstanding the alternatives presented in § 146.6 of this chapter, the area of review shall be a fixed radius as described in § 146.6(b) of this chapter.

(f) The applicant must give separate notice of intent to apply for a permit to each owner of record of the land within one-quarter mile of the site. The addresses of those to whom notice is given and the description of how notice was given shall be submitted with the permit application. The notice shall include:

(1) The name and address of applicant;

(2) A brief description of the planned injection activities, including well location, name and depth of the injection zone, maximum injection pressure and volume, and fluid to be injected;

(3) The EPA contact person; and

(4) A statement that opportunity to comment will be announced after EPA prepares a draft permit.

This requirement may be waived by the Regional Administrator if he determines that individual notice to all land owners of record would be impractical.

Subpart RR—Tennessee

§ 147.2150 State-administered program. [Reserved]

§ 147.2151 EPA-administered program.

[147.2151 revised by 53 FR 43086, October, 25, 1988]

(a) *Contents.* The UIC program for the State of Tennessee, including all Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and the additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective dates.* Effective date for the UIC program on Indian lands is November 25, 1988. The effective date for the UIC program for the rest of Tennessee is June 25, 1984.

§ 147.2152 Aquifer exemptions. [Reserved]

§ 147.2153 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3) (i) or (ii) as applicable or

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.600 - 0.433 S_g) d$$

where

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of inject fluid (unitless)

d = injection depth in feet.

§ 147.2154 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter,

and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating, provided he submits a request in writing to the Regional Administrator and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of Part 124, Subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within one year of the effective date of this regulation.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the

[Sec. 147.2154(b)(2)]

calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) of this section, as needed to protect USDWs.

§ 147.2155 Requirements for all wells—area of review.

Notwithstanding the alternatives presented in § 146.6 of this chapter, the area of review shall be a minimum fixed radius as described in § 146.6(b) of this chapter.

Subpart SS—Texas

§ 147.2200 State-administered program—Class I, III, IV, and V wells.

Requirements for Class I, III, IV, and V wells. The UIC program for Class I, III, IV, and V wells in the State of Texas, except for those wells on Indian lands, is the State-administered program approved by EPA pursuant to section 1442 of the SDWA. Notice of this approval was published on January 6, 1982 (47 FR 618); the effective date of this program is February 7, 1982. This program consists of the following elements, as submitted to EPA in the State's program application: [147.2200 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Texas. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Injection Well Act, Texas Water Code sections 27.002, 27.011 (Vernon Supp. 1984);

(b) *Other laws.* The following statutes and regulations, although not in-

corporated by reference except for select sections identified in paragraph (a) of this section, are also part of the approved State-administered UIC program:

(1) Texas Water Code Annotated, Chapter 5 (Vernon 1972 and Supp. 1982);

(2) Injection Well Act, Texas Water Code Annotated, Chapter 27 (Vernon 1972 and Supp. 1982);

(3) Rules of Texas Department of Water Resources, Chapter 27; Rules of Texas Water Development Board, Chapter 22.

(c) The Memorandum of Agreement between EPA Region VI and the Texas Department of Water Resources, signed by the EPA Regional Administrator on October 11, 1981.

(d) *Statement of legal authority.* "Underground Injection Control Program—Attorney General's Statement for Class I, III, IV, and V Injection Wells," signed by the Attorney General of Texas, June 11, 1981.

(e) The Program Description and any other materials submitted as part of the application or as supplements thereto.

(f) Certain Class V wells are under the UIC program of the Texas Railroad Commission approved on April 23, 1982, under the authorities cited in § 147.2201 of this part.

§ 147.2201 State-administered program—Class II wells

The UIC program for Class II wells in the State of Texas, except for those wells on Indian lands, is the program administered by the Railroad Commission of Texas, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on April 23, 1982 (47 FR 17488). The effective date of this program was May 23, 1982. This program consists of the following elements, as submitted to EPA in the State's program application: [147.2201 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Texas. This incorporation by reference was approved

by the Director of the Federal Register on June 25, 1984.

(1) Injection Well Act, Texas Water Code Annotated sections 27.031 and 27.033 (Vernon Supp. 1984);

(2) Texas Natural Resources Code Annotated sections 85.041, 85.045, 85.046 and 85.052 (Vernon 1978 and Supp. 1982);

(3) Rules Having Statewide General Application to Oil, Gas, and Geothermal Resource Operations, sections .051.02.02.000 to .051.02.02.080 (Railroad Commission of Texas, Oil and Gas Division, Revised 12-22-81), amended as follows:

(i) Amendment to 16 TAC section 3.9 (section .051.02.02.009) issued December 21, 1981, effective April 1, 1982;

(ii) Amendment to 16 TAC section 3.46 (section .051.02.02.046) issued December 21, 1981, effective April 1, 1982.

(iii) Amendment to 16 TAC section 3.71 (section .051.02.02.074) issued December 21, 1981, effective April 1, 1982.

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, are also part of the approved State-administered UIC program:

(1) Texas Water Code, Chapters 26, 27 and 29 (Vernon 1972 and Supp. 1982);

(2) Texas Natural Resources Code, Chapters 81, 85-89, 91 and 141 (Vernon 1978 and Supp. 1982);

(3) General Rules of Practice and Procedure, Subchapters A-J (Railroad Commission of Texas, adopted November 24, 1975, revised December 1980).

(c)(1) The Memorandum of Agreement between EPA Region VI and the Railroad Commission of Texas, signed by the EPA Regional Administrator on March 24, 1982.

(2) Letter from Director of Underground Injection Control, Railroad Commission of Texas, to Chief, Ground Water Protection Section, EPA Region VI, "Re: Letter of Clarification—UIC Program Application," March 21, 1982.

(d) *Statement of legal authority.* "Statement of Legal Authority of the Railroad Commission of Texas to conduct the Underground Injection Control Program," signed by Special Counsel, Railroad Commission of Texas, as submitted with "State of

[Sec. 147.2201(d)]

Texas Underground Injection Control Program Application for Primacy Enforcement Authority," prepared by the Railroad Commission of Texas, January 15, 1982.

(e) The Program Description and any other materials submitted as part of the application or as supplements thereto.

§ 147.2205 EPA-administered program—Indian lands.

[147.2205 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Texas is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146, and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for the Indian lands program for the State of Texas is November 25, 1988.

Subpart TT—Utah

§ 147.2250 State-administered program—Class I, III, IV, and V wells.

The UIC Program for Class I, III, IV, and V wells in the State of Utah, except those on Indian lands, are administered by the Utah Department of Health, Division of Environmental Health, approved by EPA pursuant to section 1422 of SDWA. Notice of this approval was published in the FEDERAL REGISTER on January 9, 1983 (47 FR 2321). The effective date of this program is February 10, 1983. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.2250 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by references.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Utah. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Utah Pollution Control Act, Utah Code Annotated sections 26-11-2, -8 and -10 (Supp. 1983);

(2) State of Utah Department of Health, Division of Environmental Health, Wastewater Disposal Regulations, Part VII: Underground Injection Control Program (adopted January 20, 1982) (Certified Official Copy signed by Chairman, Utah Water Pollution Control Committee).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference except for select sections identified in paragraph (a) of this section, are also part of the approved State-administered program:

(1) Utah Pollution Control Act, Utah Code Annotated sections 26-11-1 to -20 (Supp. 1983).

(c)(1) The Memorandum of Agreement between EPA, Region VIII and the Utah Department of Health, Division of Environmental Health, signed by the Regional Administrator on August 16, 1982.

(2) Letter from Director, Utah Department of Health, Division of Environmental Health, Bureau of Water Pollution Control, to EPA Region VIII, "Re: Underground Injection Control Program—Utah," March 15, 1982.

(d) *Statement of legal authority.* (1) "Underground Injection Control Program—Attorney General's Statement," signed by Attorney General, State of Utah, January, 1982;

(2) Letter from Assistant Attorney General of Utah to Chief, Drinking Water Branch, EPA Region VIII, June 18, 1982.

(e) The Program Description and any other materials submitted as part of the application or supplements thereto.

§ 147.2251 State-administered program—Class II wells.

The UIC program for Class II wells in the State of Utah, except those on Indian lands, is the program administered by the Utah Department of Natural Resources, Division of Oil, Gas, and Mining, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on October 8, 1982 (47 FR 44561); the effective date of this program is November 7, 1982. This program consists of the following elements, as submitted to EPA in the State's program application:

[147.2251 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Utah. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) General Rules and Regulations and Rules of Practice and Procedure, by Order of: Board of Oil, Gas and Mining (of the State of Utah) (amended to March 23, 1978), as amended by Cause No. 190-4, Rule I—Underground Injection Criteria and Standards (adopted May 27, 1982).

(b) *Other laws.* [Reserved]

(c)(1) The Memorandum of Agreement between EPA, Region VIII and the Utah Department of Natural Resources, Division of Oil, Gas, and Mining and the Board of Oil, Gas and Mining, signed by the EPA Regional Administrator on July 19, 1983;

(2) Letter from Director, Division of Oil, Gas and Mining, Utah Department of Natural Resources and Energy, to Regional Administrator, EPA Region VIII, "Re: Aquifer Exemption Process," June 16, 1982;

(3) "Memorandum of Understanding" between Utah Department of Health and Utah Department of Natural Resources, dated March 5, 1981;

(4) "Second Addition to Agreement between the Department of Health and the Department of Natural Resources and Energy," dated December 15, 1981.

(d) *Statement of legal authority.* (1) Part III of "Primacy Application—Class II Underground Injection Wells," consisting of "Synopsis of Pertinent Statutes and Regulations," "Statement of Legal Authority," and "Certification by the Attorney General," by Assistant Attorney General, Department of Natural Resources and Energy, dated December 18, 1981;

(2) Letter from Assistant Attorney General, State of Utah, to EPA Region VIII, undated, received in the EPA Office of Regional Counsel June 10, 1982.

(e) The Program Description and any other materials submitted as part of the application or amendments thereto.

[Sec. 147.2251(e)]

§ 147.2253 EPA-administered program—
Indian lands.

[147.2253 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in Utah is administered by EPA. The program for wells on the lands of the Navajo and Ute Mountain Ute consists of the requirements set forth at Subpart HHH of this part. The program for all other wells on Indian lands consists of the UIC program requirements of 30 CFR Parts 124, 144, 146, and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for this program for all other Indian lands in Utah (as well as for the program of the Navajo and Ute Mountain Ute) is November 25, 1988.

Subpart UU—Vermont

§ 147.2300 State-administered program.

The UIC program for all classes of wells for the State of Vermont, except for those on Indian lands, is the program administered by the Vermont Department of Water Resources and Environmental Engineering approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the Federal Register on June 22, 1984; the effective date of this program, is July 6, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

[147.2300 heading and introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Vermont. This incorporation by reference was approved by the Director of the Federal Register July 6, 1984.

(1) Vt. Stat. Ann. tit. 10, sections 1251, 1259, 1263 (1973 and Supp. 1981), Effective date: July 1, 1982.

(2) Vermont Department of Water Resources and Environmental Engineering, Chapter 13 Water Pollution Control Regulations, Subchapter 13.UIC—Underground Injection Control, Discharges to Injection Wells, Effective Date: June 21, 1984.

(b) *Other laws.* The following statutes and regulations although not incorporated by reference, also are part of the approved State-administered program:

(1) Vt. Stat. Ann. tit. 10, sections 1251 through 1283 (1973 and Supp. 1981).

(2) Vt. Stat. Ann. tit. 10, sections 901 through 911 (1973 and Supp. 1981).

(3) Vt. Stat. Ann. tit. 3, sections 801 through 847 (1973 and Supp. 1981).

(c)(1) The Memorandum of Agreement between EPA Region I and the Vermont Agency of Environmental Conservation signed by the EPA Regional Administrator on January 16, 1984.

(d) *Statement of legal authority.* (1) "Vermont Attorney General's Statement for Classes I, II, III, IV and V Injection Wells," signed by Attorney General John J. Easton, Jr., as submitted with Vermont Application for Primary Enforcement Responsibility to Administer the Underground Water Source Protection Program Pursuant to the Safe Drinking Water Act and 40 CFR 145.21 through 145.24 (December 20, 1983).

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

(42 U.S.C. 300)

§§ 147.2301 — 147.2302 [Reserved]

§ 147.2303 EPA-administered program—
Indian lands.

[147.2303 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for Indian lands in Vermont is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands in Vermont is November 25, 1988.

§ 147.2304 — 147.2349 [Reserved]

Subpart VV—Virginia

§ 147.2350 State-administered program.
[Reserved]

§ 147.2351 EPA-administered program.

[147.2351 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the State of Virginia, including all Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and requirements.

(b) *Effective dates.* The effective date for the UIC program on Indian lands is November 25, 1988. The effective date for the UIC program for the remainder of Virginia is June 25, 1988.

§ 147.2352 Aquifer exemptions. [Reserved]

Subpart WW—Washington

§ 147.2400 State-administered program—
Class I, II, III, IV, and V wells.

The UIC program for Class I, II, III, IV, and V wells in the State of Washington other than those on Indian lands, is the program administered by the Washington Department of Ecology, approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on August 9, 1984; the effective date of this program is September 24, 1984. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Washington. This incorporation by reference was approved by the Director of the Federal Register effective September 24, 1984.

(1) Revised Code of Washington section 90.48.020, 90.48.080, 90.48.160, and

[Sec. 147.2400(a)(1)]

90.48.162 (Bureau of National Affairs, 1983 Laws);

(2) Washington Administrative Code sections 173-218-010 to 173-218-110 (Bureau of National Affairs, 2/29/84);

(3) Washington Administrative Code sections 344-12-001 to 344-12-262 (1983 Ed.)

(b) *Other laws.* The following statutes and regulations although not incorporated by reference, also are part of the approved State-administered program:

(1) Revised Code of Washington, chapter 34.04 (Bureau of National Affairs, 1981 Laws), entitled "Administrative Procedure act";

(2) Revised Code of Washington, chapter 43.21A (Bureau of National Affairs, 1980 Laws), entitled "Department of Ecology," as amended by 1983 Washington Laws, Chapter 270

(3) Revised Code of Washington, chapter 70.105 (Bureau of National Affairs, 1983 Laws), entitled "Hazardous Waste Disposal";

(4) Revised Code of Washington, chapter 78.52 (Bureau of National Affairs, 1983 Laws), entitled "Oil and Gas Conservation";

(5) Revised Code of Washington, chapter 90.48 (Bureau of National Affairs, 1986 Laws), entitled "Water Pollution Control."

(c)(1) The Memorandum of Agreement between EPA Region X and the Washington Department of Ecology, signed by the EPA Regional Administrator on May 14, 1984;

(2) Memorandum of Agreement between the Washington Department of Ecology and Oil and Gas Conservation Committee, Related to the Underground Injection Control Program for the State of Washington, signed March 23, 1984;

(3) Memorandum of Agreement between the Washington Department of Ecology and Washington Department of Natural Resources, Related to the Underground Injection Control Program for the State of Washington, signed March 23, 1984;

(4) Memorandum of Agreement between the Washington Department of Ecology and Department of Social and Health Services, Related to the Underground Injection Control Program for the State of Washington, signed March 23, 1984;

(d) *Statement of legal authority.* Letter from Attorney General of the State of Washington, by Senior Assistant Attorney General, to Director,

Washington State Department of Ecology, "Re: Underground Injection Control Regulatory Program—Attorney General's Statement," February 28, 1984.

(e) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.2403 EPA-administered program—Indian lands.

[147.2403 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in the State of Washington is administered by EPA. This program, for all Indian lands except those of the Colville Tribe, consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for the UIC program for Indian lands in Washington is November 25, 1988.

§ 147.2404 EPA-administered program—Colville Reservation.

[147.2404 added by 53 FR 43086, October 25, 1988]

(a) The UIC program for the Colville Indian Reservation consists of a prohibition of all Class I, II, III and IV injection wells and of a program administered by EPA for Class V wells. This program consists of the UIC program requirements of 40 CFR Part 124, 144 and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and EPA shall comply with these requirements. The prohibition on Class I-IV wells is effective November 25, 1988. No owner or operator shall construct, operate, maintain, convert, or conduct any other injection activity thereafter using Class I-IV wells.

(b) Owners and operators of Class I, II, III or IV wells in existence on the effective date of the program shall cease injection immediately. Within 60 days of

the effective date of the program, the owner or operator shall submit a plan and schedule for plugging and abandoning the well for the Director's approval. The owner or operator shall plug and abandon the well according to the approved plan and schedule.

Subpart XX—West Virginia

§§147.2450 — 147.2452 [Reserved]

§ 147.2453 EPA-administered program—Indian lands.

[147.2453 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for all classes of wells on Indian lands in West Virginia is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144 and 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for the UIC program on Indian lands in West Virginia is November 25, 1988.

§§147.2454 — 147.2499 [Reserved]

Subpart YY—Wisconsin

§ 147.2500 State-administered program.

The UIC program for Class I, II, III, IV, and V wells in the State of Wisconsin, other than those on Indian lands as described in § 147.2510, is the program administered by the Wisconsin Department of Natural Resources, approved by EPA pursuant to SDWA section 1422. Notice of this approval was published in the FEDERAL REGISTER on September 30, 1983 (48 FR 44783); the effective date of this program is November 30, 1983. This program consists of a prohibition of all injection wells except heat pump return flow injection wells and may be found in the following elements, as submitted to EPA in the State's program application.

§ 147.2510 EPA-administered program—Indian lands.

(a) *Contents.* The UIC program for Indian lands in the State of Wisconsin

[Sec. 147.2510(a)]

is administered by EPA. This program consists of 40 CFR Parts 144 and 146 and additional requirements set forth in this section. Injection well owners and operators, and EPA, shall comply with these requirements.

(b) *Requirements.* Notwithstanding the requirements of paragraph (a) of this section for Indian lands in Wisconsin no owner or operator shall construct, operate, maintain, or convert any Class I, II, III, IV or V injection well.

(c) *Effective date.* The effective date of the UIC program requirements for Indian lands in Wisconsin is December 30, 1984.

Subpart ZZ—Wyoming

§ 147.2550 State-administered program—Class I, III, IV, and V wells.

The UIC program for Class I, III, IV and V wells in the State of Wyoming, except those on Indian lands is the program administered by the Wyoming Department of Environmental Quality approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the Federal Register on July 15, 1983. (48 FR 32344); the effective date of this program, is August 17, 1983. The program consists of the following elements as submitted to EPA in the State's program application.

[147.2550 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Wyoming. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Wyoming Environmental Quality Act, Wyoming Statutes sections 35-11-103, 35-11-301, 35-11-401, 35-11-405, 35-11-406, 35-11-408, 35-11-410, 35-11-415, 35-11-426 through 35-11-430 (1977 and Supp. 1983);

(2) Water Quality Rules and Regulations, Wyoming Department of Environmental Quality, Chapter III: Regulations for Permit to Construct, Install or Modify Public Facilities Capable or

(sic) Causing or Contributing to Pollution (certified copy, signed December 21, 1983);

(3) Water Quality Rules and Regulations, Wyoming Department of Environmental Quality, Chapter VIII: Quality Standards for Groundwaters of Wyoming (certified copy, signed April 9, 1980);

(4) Water Quality Rules and Regulations, Wyoming Department of Environmental Quality, Chapter IX: Wyoming Groundwater Pollution Control Permit (certified copy, signed April 9, 1980);

(5) Land Quality Rules and Regulations, Wyoming Department of Environmental Quality, Chapter XXI: In-Situ Mining.

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference except for select sections identified in paragraph (a) of this section, are also part of the approved State-administered program:

(1) Wyoming Environmental Quality Act, Wyoming Statute sections 35-11-101 through 35-11-1207 (1977 and Supp. 1983);

(2) Article 9, Underground Water, Wyoming Statutes sections 41-3-901 through 41-3-938 (1977);

(3) Wyoming Administrative Procedure Act, Wyoming Statutes sections 9-4-101 through 9-4-115 (1977).

(c)(1) The Memorandum of Agreement between EPA, Region VIII and the Wyoming Department of Environmental Quality, signed by the EPA Regional Administrator on April 26, 1983.

(2) Letter from Regional Administrator, EPA Region VIII, to Governor of Wyoming, May 21, 1982, with Attachment (regarding aquifer exemptions);

(3) Letter from Governor of Wyoming to Regional Administrator, EPA Region VIII, "Re: Underground Injection Control (UIC) Program—Aquifer Exemption Issues," June 7, 1982;

(4) Letter from Regional Administrator, EPA Region VIII to Governor of Wyoming, "Re: Underground Injection Control (UIC) Program—Aquifer Exemption Issues," June 25, 1982;

(5) Letter from Director, Wyoming Department of Environmental Quality, to Acting Director, Water Management Division, EPA Region VIII, December 1, 1982.

(d) *Statement of legal authority.* (1) "Attorney General's Statement—Wyo-

oming Statutory and Regulatory Authority for Assumption of the Underground Injection Control Program Pursuant to the Federal Safe Drinking Water Act," signed by Attorney General and Assistant Attorney General for the State of Wyoming, September 22, 1982;

(2) Letter from Attorney General for the State of Wyoming to Acting Regional Counsel, EPA Region VIII, "Re: Wyoming Assumption of the UIC Program—\$36, Chapter IX, Wyoming Water Quality Rules and Regulations," November 24, 1982.

(e) The Program Description and any other materials submitted as part of the application or amendment thereto.

§ 147.2551 State-administered program—Class II wells.

The UIC program for Class II wells in the State of Wyoming, except those Indian lands is the program administered by the Wyoming Oil and Gas Conservation Commission, approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the Federal Register on November 23, 1982 (47 FR 52434); the effective date of this program, is December 23, 1982. The program consists of the following elements as submitted to EPA in the State's program application.

[147.2551 introductory text amended by 53 FR 43086, October 25, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Wyoming. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Rules and Regulations of the Wyoming Oil and Gas Conservation Commission, as amended by Cause No. 1, Order No. 29, Docket No. 222-81 (dated October 23, 1981), as amended by Correction Order, Cause No. 1, Order No. 29, Docket No. 222-81 (dated November 10, 1981).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference, are also part of the approved State-administered program:

[Sec. 147.2551(b)]

(1) Chapter 5, Oil and Gas, Wyoming Statutes Annotated sections 30-5-101 through 30-5-126 (1977).

(c)(1) The Memorandum of Agreement between EPA, Region VIII and the Wyoming Oil and Gas Conservation Commission, signed by the EPA Regional Administrator on June 2, 1982.

(2) Amendment No. 1 to the Memorandum of Agreement, dated December 22, 1982;

(3) Letter from State Oil and Gas Supervisor, Wyoming Oil and Gas Conservation Commission, to Acting Director, Water Management Division, EPA, Region VIII, "Re: Application for Primacy in the Regulation of Class II Injection Wells," March 8, 1982;

(4) Letter from State Oil and Gas Supervisor, Wyoming Oil and Gas Conservation Commission, to EPA Region VIII, "Re: Regulation of Liquid Hydrocarbon Storage Wells Under the UIC Program," July 1, 1982;

(5) Memorandum of Agreement Between the Wyoming State Board of Control, State Engineer, Oil and Gas Conservation Commission, and the Department of Environmental Quality, dated October 14, 1981.

(d) *Statement of legal authority.* (1) "Statement of Legal Authority" and "State Review of Regulations and Statutes Relevant to the UIC Pro-

gram—Class II Wells," signed by Special Assistant Attorney General for the State of Wyoming, as submitted with "Wyoming Oil and Gas Conservation Commission, Application for Primacy in the Regulation of Class II Injection Wells under section 1425 of the Safe Drinking Water Act," November 1981;

(2) Letter from Special Assistant Attorney General for the State of Wyoming to Assistant Regional Counsel, EPA Region VIII, May 13, 1982;

(3) Letter from Special Assistant Attorney General for the State of Wyoming to Assistant Regional Counsel, EPA Region VIII, July 1, 1982.

(e) The Program Description and other material submitted as part of the application or amendments thereto.

§ 147.2553 EPA-administered program—Indian lands.

[147.2553 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for Indian lands in Wyoming is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and

EPA shall comply with these requirements.

(b) *Effective date.* The effective date for the UIC program on Indian lands in Wyoming is November 25, 1988.

§ 147.2554 Aquifer Exemptions.

[147.2554 added by 53 FR 43086, October 25, 1988]

In accordance with § 144.7(b) and § 146.4 of this chapter, those portions of aquifers currently being used for injection in connection with Class II (oil and gas) injection operations on the Wind River Reservation, which are described below, are hereby exempted for the purpose of Class II injection activity. This exemption applies only to the aquifers tabulated below, and includes those portions of the aquifers defined on the surface by an outer boundary of those quarter-quarter sections dissected by a line drawn parallel to, but one-quarter mile outside, the field boundary, and is restricted to extend no further than one-quarter mile outside the Reservation boundary. Maps showing the exact boundaries of the field may be consulted at the EPA's Region 8 Office, and at the EPA Headquarters in Washington, DC.

AREAS TO BE EXEMPTED FOR THE PURPOSE OF CLASS II INJECTION ON THE WIND RIVER RESERVATION

Formation	Approximate depth	Location
<i>Steamboat Butte Field</i>		
Phosphoria.....	6,500-7,100	T3N, R1W—W/2 Sec. 4, Sec. 5, E/2 Sec. 6, NE/4 Sec. 8, W/2 Sec. 9, T4N, R1W—W/2 Sec. 29, E/2 Sec. 30, E/2 Sec. 31, Sec. 32.
Tensleep.....	6,900-7,500	T3N, R1W—W/2 Sec. 4, Sec. 5, E/2 Sec. 6, NE/4 Sec. 8, W/2 Sec. 9, T4N, R1W—W/2 Sec. 29, E/2 Sec. 30, E/2 Sec. 31, Sec. 32.
<i>Winkelman Dome Field</i>		
Tensleep.....	2,800-3,300	T2N, R1W—SW/4 Sec. 17, Sections 18, 19, 20, 29, NE/4 Sec. 30, T2N, R2W—E/2 Sec. 13, NE/4 Sec. 24.
Phosphoria.....	2,800-5,600	T2N, R1W—SW/4 Sec. 17, Sections 18, 19, 20, 29, NE/4 Sec. 30, T2N, R2W—E/2 Sec. 13, NE/4 Sec. 24.
Nugget.....	1,100-1,500	T2N, R1W—SW/4 Sec. 17, Sections 18, 19, 20, 29, NE/4 Sec. 30, T2N, R2W—E/2 Sec. 13, NE/4 Sec. 24.
<i>Lander Field</i>		
Phosphoria.....	1,100-3,800	T2S, R1E—Sections 12 and 13, E/2 Sec. 24, NE/4 Sec. 25, T2S, R2E—W/2 Sec. 18, W/2 Sec. 19, Sec. 30, T33N, R99W—Sec. 4.
<i>NW Sheldon Field</i>		
Crow Mountain and Cloverly.....	3,400-3,500	T6N, R3W—SE/4 Sec. 35, SW/4 Sec. 36, T5N, R3W—N/2 Sec. 1.
<i>Circle Ridge Field</i>		
Tensleep.....	1,500-1,600	T6N, R2W—Sec. 6, N/2 Sec. 7, T7N, R3W—SE/4 Sec. 36, T7N, R2W—SW/4 Sec. 31, T6N, R3W—E/2 Sec. 1, T7N, R3W—S/2 Sec. 36, T6N, R3W—NE/4 Sec. 1, T6N, R3W—Sec. 6.
Phosphoria.....	800-1,300	T6N, R3W—NE/4 Sec. 1, T6N, R3W—Sec. 6.
Amsden.....	700-1,200	T6N, R3W—Sec. 6.
<i>Rolff Lake Field</i>		
Crow Mountain.....	3,500-3,700	T6N, R3W—SW/4 Sec. 26, NW/4 Sec. 27.

[Sec. 147.2554]

Subpart AAA—Guam

§ 147.2600 State-administered program.

The UIC program for all classes of wells in the territory of Guam, except those Indian lands is the program administered by the Guam Environmental Agency, approved by EPA pursuant to SDWA section 1422. Notice of this approval was published in the *Federal Register* on May 2, 1983. (47 FR 19717); the effective date of this program, is June 1, 1983. This program consists of the following elements as submitted to EPA in the State's program application.

[147.2600 introductory text amended by 53 FR 43086, October 26, 1988]

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the territory of Guam. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Water Resources Conservation Act, Government Code of Guam sections 57021-57025, Pub. L. 9-31 (March 9, 1967), as amended by Pub. L. 9-76 (July 29, 1967), as amended by Pub. L. 12-191 (December 30, 1974);

(2) Water Pollution Control Act, Government Code of Guam sections 57042 and 57045, Pub. L. 9-76 (July 29, 1967), as amended by Pub. L. 9-212 (August 5, 1968), as amended by Pub. L. 10-31 (March 10, 1969), as amended by Pub. L. 12-191 (December 30, 1974);

(3) Guam Environmental Protection Agency, Underground Injection Control Regulations, Chapters 1-9, as revised by amendments adopted September 24, 1982;

(4) Guam Environmental Protection Agency, Water Quality Standards, Section I-IV (approved September 25, 1981, effective November 16, 1981).

(b) *Other laws.* The following statutes and regulations, although not incorporated by reference except for specific sections identified in paragraph (a) of this section, are also part of the approved State-administered program:

(1) Government Code of Guam, Title XXV, Chapters I-III (sections 24000-24207);

(2) Government Code of Guam, Title LXI, Chapters I-III (sections 57000-57051);

(3) Government Code of Guam, Title LXI, Chapters VI (sections 57120-57142);

(4) Government Code of Guam, Title LXI, Chapters VIII (sections 57170-57188);

(5) Government Code of Guam, Title LXI, Chapters XII (sections 57285-57299);

(c) The Memorandum of Agreement between EPA, Region IX and the Guam Environmental Protection Agency signed by the Regional Administrator on January 14, 1983.

(d) *Statement of legal authority.* (1) Letter from Attorney General of Guam to Regional Administrator, Region IX, "Re: Attorney General's Statement for Underground Injection Control Program (UIC), Ground Water Program Guidance #16" May 12, 1982;

(2) Letter from Attorney General of Guam to Regional Administrator, Region IX, "Re: Additional comments to be incorporated into the May 12, 1982, Attorney General's Statement for Underground Injection Control Program," September 2, 1982.

(e) The Program Description and any other materials submitted as part of the application or amendments thereto.

§ 147.2601 EPA-administered program—Indian lands.

[147.2601 added by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for Indian lands in the territory of Guam is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with the requirements.

(b) *Effective date.* The effective date for the UIC program on Indian lands in the territory of Guam is November 25, 1988.

Subpart BBB—Puerto Rico

§ 147.2650 State-administered program. [Reserved]

§ 147.2651 EPA-administered program.

[147.2651 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for Puerto Rico, including all Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with the requirements.

(b) *Effective dates.* The effective date of the UIC program for non-Indian lands in Puerto Rico is December 30, 1984. The effective date of the UIC program on Indian lands in Puerto Rico is November 25, 1988.

Subpart CCC—Virgin Islands

§ 147.2700 State-administered program. [Reserved]

§ 147.2701 EPA-administered program.

[147.2701 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the Virgin Islands, including all Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with the requirements.

(b) *Effective dates.* The effective date of the UIC program for non-Indian lands in the Virgin Islands is December 30, 1984. The effective date for Indian lands in the Virgin Islands is November 25, 1988.

Subpart DDD—American Samoa

§ 147.2750 State-administered program. [Reserved]

§ 147.2751 EPA-administered program.

[147.2751 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for American Samoa, including Indian

[Sec. 147.2751(a)]

lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with the requirements.

(b) *Effective dates.* The effective date for the UIC program on non-Indian lands is June 25, 1984. The effective date of the UIC program on Indian lands is November 25, 1988.

§ 147.2752 Aquifer exemptions. [Reserved]

Subpart EEE—Commonwealth of the Northern Mariana Islands

§ 147.2800 State-administered program—Class I, II, III, IV, and V wells.

The UIC program for Class I, II, III, IV, and V wells in the Commonwealth of the Northern Mariana Islands, other than those on Indian lands, is the program administered by the Commonwealth of the Northern Mariana Islands Division of Environmental Quality approved by EPA pursuant to Section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on January 18, 1985; the effective date of this program is August 30, 1985. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the Commonwealth of the Northern Mariana Islands. This incorporation by reference was approved by the Director of the FEDERAL REGISTER effective July 31, 1985.

(1) CNMI Environmental Protection Act, 2 CMC sections 3101, *et seq.* (1984);

(2) CNMI Coastal Resources Management Act, 2 CMC sections 1501, *et seq.* (1984);

(3) CNMI Drinking Water Regulations, Commonwealth Register, Volume 4, Number 4 (August 15, 1982);

(4) CNMI Underground Injection Control Regulations, Commonwealth Register, Volume 6, Number 5 (May 15, 1984, amended November 15, 1984, January 15, 1985);

(5) CNMI Coastal Resources Management Regulations, Commonwealth Register, Volume 6, Number 12, December 17, 1984.

(b)(1) The Memorandum of Agreement between EPA Region IX and the Commonwealth of the Northern Mariana Islands Division of Environmental Quality, signed by the EPA Regional Administrator on May 3, 1985;

(c) *Statement of Legal authority.* Statement from Attorney General Commonwealth of the Northern Mariana Islands, "Underground Injection Control Program—Attorney General's Statement," signed on October 10, 1984.

(d) The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§ 147.2801 EPA-administered program.

[147.2801 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for Indian lands in the Commonwealth of the Northern Mariana Islands is administered by EPA. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with the requirements.

(b) *Effective date.* The effective date of the UIC program for Indian lands is November 25, 1988.

§ 147.2802 Aquifer exemptions. [Reserved]

Subpart FFF—Trust Territory of the Pacific Islands

§ 147.2850 State-administered program. [Reserved]

§ 147.2851 EPA-administered program.

[147.2851 revised by 53 FR 43086, October 25, 1988]

(a) *Contents.* The UIC program for the Trust Territory of the Pacific Islands, including Indian lands, is administered by EPA. This program consists of the UIC program requirements of 40 CFR

Parts 124, 144, 146 and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with the requirements.

(b) *Effective dates.* The effective date of the UIC program for non-Indian lands of the Trust Territory of the Pacific Islands is June 25, 1984. The effective date for the Indian lands is November 25, 1988.

§ 147.2852 Aquifer exemptions. [Reserved]

Subpart GGG—Osage Mineral Reserve—Class II Wells

§ 147.2901 Applicability and scope.

This subpart sets forth the rules and permitting requirements for the Osage Mineral Reserve, Osage County, Oklahoma, Underground Injection Control Program. The regulations apply to owners and operators of Class II injection wells located on the Reserve, and to EPA.

§ 147.2902 Definitions.

Most of the following terms are defined in § 144.3, and have simply been reproduced here for the convenience of the reader. This section also includes definitions of some terms unique to the Osage program. Terms used in this subpart are defined as follows:

Administrator—the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Aquifer—a geologic formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

BIA—The "Bureau of Indian Affairs," United States Department of Interior.

Casing—a pipe or tubing 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 the hole.

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

[Sec. 147.2902]

Class II Wells—wells which inject fluids:

(a) Which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters would be classified as a hazardous waste at the time of injection;

(b) For enhanced recovery of oil or natural gas; and

(c) For storage of hydrocarbons which are liquid at standard temperature and pressure.

Existing Class II Wells—wells that were authorized by BIA and constructed and completed before the effective date of this program.

New Class II Wells—wells constructed or converted after the effective date of this program, or which are under construction on the effective date of this program.

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

Confining zone—a geologic formation, group of formations, or part of a formation that is capable of limiting fluid movement above an injection zone.

Contaminant—any physical, chemical, biological, or radiological substance or matter in water.

Disposal well—a well used for the disposal of waste into a subsurface stratum.

EPA—The United States Environmental Protection Agency.

Fault—a surface or zone of rock fracture along which there has been displacement.

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

Formation—a body of rock characterized by a degree of lithologic homogeneity which is prevailing, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

Freshwater—"Underground source of drinking water."

Ground water—water below the land surface in a zone of saturation.

Injection well—a well into which fluids are being injected.

Injection zone—a geological formation, group of formations, or part of a formation receiving fluids through a well.

Lithology—the description of rocks on the basis of their physical and chemical characteristics.

Owner/operator—the owner or operator of any facility or activity subject to regulation under the Osage UIC program.

Packer—a device lowered into a well to produce a fluid-tight seal within the casing.

Permit—an authorization issued by EPA to implement UIC program requirements. Permit does not include the UIC authorization by rule or any permit which has not yet been the subject of final Agency action.

Plugging—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.

Pressure—the total load or force per unit area acting on a surface.

Regional Administrator—the Regional Administrator of Region 6 of the United States Environmental Protection Agency, or an authorized representative.

Subsidence—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 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.

Underground source of drinking water—an aquifer or its portion:

(a)(1) Which supplies any public water system; or

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

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

(ii) Contains fewer than 10,000 mg/1 total dissolved solids; and

(b) Which is not an exempted aquifer.

USDW—underground source of drinking water.

Well—a bored, drilled, or driven shaft, or a dug hole whose depth is greater than the largest surface dimension.

Well injection—the subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension.

Well workover—any reentry of an injection well; including, but not limited to, the pulling of tubular goods, cementing or casing repairs; and excluding any routine maintenance (e.g. re-seating the packer at the same depth, or repairs to surface equipment).

§ 147.2903 Prohibition of unauthorized injection.

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

(b) No owner or operator shall construct, operate, maintain, convert, plug, or abandon any injection well, 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 the violation of any primary drinking water regulation under 40 CFR Part 142 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.

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

§ 147.2904 Area of review.

(a) The area of review for an injection well or project will be a fixed radius of one-fourth of a mile from the well, field or project.

(b) The zone of endangering influence is the lateral area around the injection well or project in which the injection zone pressures may cause movement of fluid into an underground source of drinking water (USDW) if there are improperly sealed, completed or abandoned wells present. A zone of endangering influence may be determined by EPA through the use of an appropriate formula that addresses the relevant geo-

[Sec. 147.2904(b)]

logic, hydrologic, engineering and operational features of the well, field, or project.

§ 147.2905 Plugging and abandonment.

The owner/operator shall notify the Osage UIC office within 30 days of the date injection has terminated. The well must be plugged within 1 year after termination of injection. The Regional Administrator may extend the time to plug, but only if no fluid movement into a USDW will occur, and the operator has presented a viable plan for utilizing the well within a reasonable time.

(a) Until an injection well has been properly plugged and abandoned, annual reports to the Regional Administrator on well status, and mechanical integrity tests as outlined in §§ 147.2912 and 147.2920 will be required, whether or not injection has ceased.

(b) All wells shall be plugged to prevent movement of fluid into an USDW.

(c) The owner/operator shall notify the Osage UIC office by certified mail at least 5 days prior to the commencement of plugging operations. The Osage UIC office may waive or reduce the 5-day notice requirement when a qualified EPA representative is available to witness the plugging operation. The following information must be submitted as part of the notification:

- (1) Type and number of plugs to be used;
- (2) Elevation of top and bottom of each plug;
- (3) Method of plug placement; and
- (4) Type, grade and quantity of cement to be used.

(d) The well shall be kept full of mud as casing is removed. No surface casing shall be removed without written approval from the Regional Administrator.

(e)(1) If surface casing is adequately set and cemented through all freshwater zones (set to at least 50 feet below the base of freshwater), a plug shall be set at least 50 feet below the shoe of the casing and extending at least 50 feet above the shoe of the casing, or

(2) If the surface casing and cementing is inadequate, the well bore shall

be filled with cement from a point 50 feet below the base of fresh water to a point 50 feet above the shoe of the surface casing, and any additional plugs as required by the Osage UIC office and/or the Osage Agency.

(3) In all cases, the top 20 feet of the well bore below 3 feet of ground surface shall be filled with cement. Surface casing shall be cut off 3 feet below ground surface and covered with a secure steel cap on top of the surface pipe. The remaining 3 feet shall be filled with dirt.

(f)(1) Except as provided in paragraph (f)(2) of this section, each producing or receiving formation shall be sealed off with a 50-foot cement plug placed at the base of the formation and a 50-foot cement plug placed at the top of the formation.

(2) The requirement in paragraph (f)(1) of this section does not apply if the producing/receiving formation is already sealed off from the well bore with adequate casing and cementing behind casing, and casing is not to be removed, or the only openings from the producing/receiving formation into the well bore are perforations in the casing, and the annulus between the casing and the outer walls of the well is filled with cement for a distance of 50 feet below the base of the formation and 50 feet above the top of the formation. When such conditions exist, a bridge plug capped with 10 feet of cement set at the top of the producing formation may be used.

(g) When specified by the Osage UIC office, any uncased hole below the shoe of any casing to be left in the well shall be filled with cement to a depth of at least 50 feet below the casing shoe, or the bottom of the hole, and the casing above the shoe shall be filled with cement to at least 50 feet above the shoe of the casing. If the well has a screen or liner which is not to be removed, the well bore shall be filled with cement from the base of the screen or liner to at least 50 feet above the top of the screen or liner.

(h) All intervals between cement plugs in the well bore shall be filled with mud.

(i) A report containing copies of the cementing tickets shall be submitted

to BIA within 10 days of plugging completion.

(j) A surety bond must be on file with the Bureau of Indian Affairs (BIA), and shall not be released until the well has been properly plugged and the Regional Administrator has agreed to the release of the bond.

§ 147.2906 Emergency permits.

(a) An emergency permit may be issued if:

(1) There will be an imminent health hazard unless an emergency permit is issued; or

(2) There will be a substantial and irretrievable loss of oil and gas resources, timely application for a permit could not practicably have been made, and injection will not result in movement of fluid into an USDW; or

(3) There will be a substantial delay in oil or gas production, and injection will not result in movement of fluid into an USDW.

(b) *Requirements*—(1) *Permit duration.* (i) Emergency permits issued to avoid an imminent health threat may last no longer than the time necessary to prevent the hazard.

(ii) Emergency permits issued to prevent a substantial and irretrievable loss of oil or gas resources shall be for no longer than 90 days, unless a complete permit application has been submitted during that time; in which case the emergency permit may be extended until a final decision on the permit application has been made.

(iii) Emergency permits to avoid a substantial delay in oil or gas production shall be issued only after a complete permit application has been submitted and shall be effective until a final decision on the permit application is made.

(2) Notice of the emergency permit will be given by the Regional Administrator according to the notice procedure for a draft permit within 10 days after issuance.

(3) An emergency permit may be oral or written. If oral, a written emergency permit must be issued within five calendar days.

[Sec. 147.2906(b)(3)]

§ 147.2907 Confidentiality of information.

(a) The following information cannot be claimed confidential by the submitter:

(1) Name and address of permit applicant or permittee.

(2) Information concerning the existence, absence or level of contaminants in drinking water.

(b) Other information claimed as confidential will be processed in accordance with 40 CFR Part 2.

§ 147.2908 Aquifer exemptions.

(a) After notice and opportunity for a public hearing, the Administrator may designate any aquifer or part of an aquifer as an exempted aquifer.

(b) An aquifer or its portion that meets the definition of a USDW may be exempted by EPA from USDW status if the following conditions are met:

(1) It does not currently serve as a source of drinking water, and

(2) It cannot now and will not in the future serve as a source of drinking water because:

(i) It is hydrocarbon producing, or can be demonstrated by a permit applicant as a part of a permit application for a Class II operation to contain hydrocarbons that are expected to be commercially producible (based on historical production or geologic information); or

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

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

(3) The Total Dissolved Solids content of the groundwater is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

§ 147.2909 Authorization of existing wells by rule.

All existing Class II injection wells (wells authorized by BIA and constructed or completed on or before the effective date of the Osage UIC program) are hereby authorized. Owners or operators of wells authorized by rule must comply with the provisions

of §§ 147.2903, 147.2905, 147.2907, and 147.2910 through 147.2915.

§ 147.2910 Duration of authorization by rule.

Existing Class II injection wells are authorized for the life of the well, subject to the obligation to obtain a permit if specifically required by the Regional Administrator pursuant to § 147.2915.

§ 147.2911 Construction requirements for wells authorized by rule.

All Class II wells shall be cased and cemented to prevent movement of fluids into USDWs. The Regional Administrator shall review inventory information, data submitted in permit applications, and other records, to determine the adequacy of construction (completion) or existing injection wells. At the Regional Administrator's discretion, well casing and cementing may be considered adequate if it meets the BIA requirements that were in effect at the time of construction (completion) and will not result in movement of fluid into an USDW. If the Regional Administrator determines that the construction of a well authorized by rule is inadequate, he shall require a permit, or he shall notify the owner/operator and the owner/operator shall correct the problem according to instructions from the Regional Administrator. All corrections must be completed within one year of owner/operator notification of inadequacies.

§ 147.2912 Operating requirements for wells authorized by rule.

(a) Each well authorized by rule must have mechanical integrity. Mechanical integrity must be demonstrated within five years of program adoption. The Regional Administrator will notify the well owner/operator three months before proof of mechanical integrity must be submitted to EPA. The owner/operator must contact the Osage UIC office at least five days prior to testing. The owner/operator may perform the mechanical integrity test prior to receiving notice from the Regional Administrator, provided the Osage UIC office is notified at least

five days in advance. Conditions of both paragraphs (a)(1) and (a)(2) of this section must be met.

(1) There is no significant leak in the casing, tubing or packer. This may be shown by the following:

(i) Performance of a pressure test of the casing/tubing annulus to at least 200 psi, or the pressure specified by the Regional Administrator, to be repeated thereafter, at five year intervals, for the life of the well (pressure tests conducted during well operation shall maintain an injection/annulus pressure differential of at least 100 psi through the tubing length); or

(ii) Maintaining a positive gauge pressure on the casing/tubing annulus (filled with liquid) and monitoring the pressure monthly and reporting of the pressure information annually; or

(iii) Radioactive tracer survey; or

(iv) For enhanced recovery wells, records of monitoring showing the absence of significant changes in the relationship between injection pressure and injection flow rate at the well head, following an initial pressure test as described by paragraph (a)(1)(i) or (v) of this section; or

(v) Testing or monitoring programs approved by the Regional Administrator on a case-by-case basis, and

(2) There is no significant fluid movement into a USDW through vertical channels adjacent to the well bore. This may be shown by any of the following:

(i) Cementing records (need not be reviewed every five years);

(ii) Tracer survey (in appropriate hydrogeologic settings; must be used in conjunction with at least one of the other alternatives);

(iii) Temperature log;

(iv) Noise log; or

(v) Other tests deemed acceptable by the Regional Administrator.

(b) Injection pressure at the well-head shall be limited so that it does not initiate new fractures or propagate existing fractures in the confining zone adjacent to any USDW.

(1) For existing Class II salt water disposal wells, The owner/operator shall, except during well stimulation, use an injection pressure at the well-head no greater than the pressure cal-

[Sec. 147.2912(b)(1)]

culated by using the following formula:

$P_m = (0.75 - 0.433S_g)d$
where:

P_m = injection pressure at the wellhead in pounds per square inch

S_g = specific gravity of injected fluid (unitless)

d = injection depth in feet.

Owner/operator of wells shall comply with the above injection pressure limits no later than one year after the effective date of this regulation.

(2) For existing Class II enhanced recovery wells, the owner or operator:

(i) Shall use an injection pressure not greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator shall establish such a maximum pressure after notice, opportunity for comment, and opportunity for a public hearing according to the provisions of Part 124, Subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure.

(ii) Prior to such time as the Regional Administrator establishes rules for maximum injection pressures based on data provided pursuant to paragraph (b)(2)(ii)(B) of this section the owner/operator shall:

(A) Limit injection pressure at the wellhead to a value which will not initiate new fractures or propagate existing fractures in the confining zone adjacent to any USDW; and

(B) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within one year of the effective date of this program.

(c) Injection wells or projects which have exhibited failure to confine injected fluids to the authorized injection zone or zones may be subject to restriction of injection volume and pressure, or shut-down, until the failure has been identified and corrected.

(The information collection requirements contained in paragraphs (a)(i) through (c) and (a)(2)(i) through (c) were approved by the Office of Management and Budget under control number 2040-0042)

§ 147.2913 Monitoring and reporting requirements for wells authorized by rule.

(a) The owner/operator has the duty to submit inventory information to the Regional Administrator upon request. Such request may be a general request to all operators in the County (e.g., public notice, or mailout requesting verification of information).

(b) The operator shall monitor the injection pressure (psi) and rate (bb1/day) at least monthly, with the results reported annually. The annual report shall specify the types of methods used to generate the monitoring data.

(c) The owner/operator shall notify the Osage UIC office within 30 days of any mechanical failure or down-hole problems involving well integrity, well workovers, or any noncompliance. As required, operators must apply for and obtain a workover permit from the Bureau of Indian Affairs Osage Agency before reentering an injection well. If the condition may endanger an USDW, the owner/operator shall notify the Osage UIC office orally within 24 hours, with written notice including plans for testing and/or repair to be submitted within five days. If all the information is not available within five days, a followup report must be submitted with 30 days.

(d) The owner/operator shall determine the nature of injected fluids initially, when the nature of injected fluids is changed or when new constituents are added. The records should reflect the source of character of the new fluid and the date changes were made.

(e) The owner/operator shall retain all monitoring records for three years, unless an enforcement action is pending, and then until three years after the enforcement action has been resolved.

(Approved by the Office of Management and Budget under control number 2040-0042)

§ 147.2914 Corrective action for wells authorized by rule.

Based on the Regional Administrator's discretion, corrective action to prevent movement of fluid into a USDW may be required for improperly sealed, completed or abandoned wells (i.e., wells or well bores which may provide an avenue for fluid migration into a USDW) within the zone of endangering influence (as defined in § 147.2904, Area of Review) of an injection well authorized by rule.

(a) EPA will notify the operator when corrective action is required. Corrective action may include:

(1) Well modifications:

(i) Recementing;

(ii) Workover;

(iii) Reconditioning;

(iv) Plugging or replugging;

(2) Limitations on injection pressure to prevent movement of fluid into an USDW;

(3) A more stringent monitoring program; and/or

(4) Periodic testing of other wells to determine if significant movement of fluid has occurred.

(b) If the monitoring discussed in paragraph (a)(3) or (4) of this section indicate the potential endangerment of an USDW, then action as described in paragraph (a)(1) or (2) of this section must be taken.

§ 147.2915 Requiring a permit of wells authorized by rule.

(a) The Regional Administrator may require the owner or operator of any well authorized by rule to apply for an individual or area permit. The Regional Administrator shall notify the owner/operator in writing that a permit application is required. The notice shall contain:

(1) Explanation of need for application;

(2) Application form and, if appropriate, a list of additional information to be submitted; and

(3) Deadline for application submission.

(b) Cases in which the Regional Administrator may require a permit include:

(1) The owner or operator is not in compliance with provisions of the rule;

[Sec. 147.2915(b)(1)]

(2) Injection well is no longer within the category of wells authorized by rule;

(3) Protection of USDW's requires that the injection operation be regulated by requirements which are not contained in the rule; or

(4) Discretion of Regional Administrator.

(c) Injection is no longer authorized by rule upon the effective date of a permit or permit denial, or upon failure of the owner/operator to submit an application in a timely manner as specified in the notice described in paragraph (a) of this section.

(d) Any owner/operator authorized by rule may request to be excluded from the coverage of the rules by applying for an individual or area UIC permit.

§ 147.2916 Coverage of permitting requirements.

The owner or operator of a new Class II injection well or any other Class II well required to have a permit in the Osage Mineral Reserve shall comply with the requirements of §§ 147.2903, 147.2907, 147.2918, through 147.2928.

§ 147.2917 Duration of permits.

Unless otherwise specified in the permit, the permits will be in effect until the well is plugged and abandoned or the permit terminated. The Regional Administrator will review each issued permit at least once every five years to determine whether it should be modified or terminated.

§ 147.2918 Permit application information.

(a) The owner/operator must submit the original and three copies of the permit application, with two complete sets of attachments, to the Osage UIC office. The application should be signed by the owner/operator or a duly authorized representative. The application should also include appropriate forms (i.e., BIA's Application for Operation or Report on Wells and EPA's permit application). The applicant has the burden of proof to show that the proposed injection activities will not endanger USDWs.

(b) The application shall include the information listed below. Information

required by paragraphs (b) (5), (7), or (9) of this section that is contained in EPA or BIA files may be included in the application by reference.

(1) Map using township-range sections showing the area of review and identifying all wells of public record penetrating the injection interval.

(2) Tabulation of data on the wells identified in paragraph (b)(1) of this section, including location, depth, date drilled, and record of plugging and/or completion.

(3) Operating data:

(i) Maximum and average injection rate;

(ii) Maximum and average injection pressure;

(iii) Whether operation is on cyclic or continuous operation basis; and

(iv) Source and appropriate analysis of injected fluids, including total dissolved solids, chlorides, and additives.

(4) Geologic data on the injection and confining zones, including faults, geological name, thickness permeability, depth and lithologic description.

(5) Depth to base of fresh water.

(6) Schematic drawings of the surface and subsurface details of the well, showing:

(i) Total depth or plug-back depth;

(ii) Depth to top and bottom of injection interval;

(iii) Depths to tops and bottoms of casing and cemented intervals, and amount of cement to be used;

(iv) Size of casing and tubing, and depth of packer; and

(v) Hole diameter.

(7) Proof that surety bond has been filed with the BIA Superintendent in accordance with 25 CFR 226.6. A surety bond must be maintained until the well has been properly plugged.

(8) Verification of public notice, consisting of a list showing the names, addresses, and date that notice of permit application was given or sent to:

(i) The surface land owner;

(ii) Tenants on land where injection well is located or proposed to be located; and

(iii) Each operator of a producing lease within one-half mile of the well location.

(9) All available logging and testing data on the well (for existing wells,

i.e., wells to be converted or wells previously authorized by rule).

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§ 147.2919 Construction requirements for wells authorized by permit.

(a) All Class II wells shall be sited so that they inject into a formation that is separated from any USDW by a confining zone free of known open faults or fractures within the area of review.

(b) All Class II wells shall be cased and cemented to prevent movement of fluids into or between USDWs. Requirements shall be based on the depth to base of fresh water, and the depth to the injection zone. Newly drilled Class II wells must have surface casing set and cemented to at least 50 feet below the base of fresh water, or the equivalent (e.g., long string cemented to surface). At the Regional Administrator's discretion, the casing and cementing of wells to be converted may be considered adequate if they meet the BIA requirements that were in effect at the time of construction (completion), and will not result in movement of fluid into a USDW.

(c) Owner/operators shall provide a standard female fitting with cut-off valves, connected to the tubing and the tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an EPA representative by attaching a gauge having a standard male fitting.

(d) No owner or operator may begin construction of a new well until a permit authorizing such construction has been issued, unless such construction is otherwise authorized by an area permit.

§ 147.2920 Operating requirements for wells authorized by permit.

(a) For new Class II wells, injection shall be through adequate tubing and packer. Packer shall be run on the tubing and set inside the casing within 75 feet of the top of the injection interval. For existing Class II, wells, injection shall be through adequate tubing and packer, or according to alternative operating requirements approved by the Regional Administrator,

[Sec. 147.2920(a)]

as necessary to prevent the movement of fluid into a USDW.

(b) Each well must have mechanical integrity. Mechanical integrity of the injection well must be shown prior to operation. The owner/operator must notify the Osage UIC office at least five days prior to mechanical integrity testing. Conditions of both paragraphs (b) (1) and (2) of this section must be met.

(1) There is no significant leak in the casing, tubing or packer. This may be shown by the following:

(i) Performance of a pressure test of the casing/tubing annulus to at least 200 psi, or the pressure specified by the Regional Administrator, to be repeated thereafter, at five year intervals, for the life of the well (Pressure tests conducted during well operation shall maintain an injection/annulus pressure differential of at least 100 psi throughout the tubing length); or

(ii) Maintaining a positive gauge pressure on the casing/tubing annulus (filled with liquid) and monitoring the pressure monthly and reporting of the pressure information annually; or

(iii) Radioactive tracer survey; or

(iv) For enhanced recovery wells, record of monitoring showing the absence of significant changes in the relationship between injection pressure and injection flow rate at the well-head, following an initial pressure test as described by paragraph (b)(1) (i) or (v) of this section; or

(v) Testing or monitoring programs approved by the Administrator on a case-by-case basis, and

(2) There is no significant fluid movement into a USDW through vertical channels adjacent to the well bore. This may be shown by any of the following:

(i) Cementing records (need not be reviewed every five years);

(ii) Tracer survey (in appropriate hydrogeologic settings; must be used in conjunction with at least one of the other alternatives);

(iii) Temperature log;

(iv) Noise log; or

(v) Other tests deemed acceptable by the Administrator.

(c) Injection pressure at the well-head shall be limited so that it does not initiate new fractures or propagate

existing fractures in the confining zone adjacent to any UDSW.

(d) Injection wells or projects which have exhibited failure to confine injected fluids to the authorized injection zone or zones may be subject to restriction of injected volume and pressure or shut-in, until the failure has been identified and corrected.

(e) Operation shall not commence until proof has been submitted to the Regional Administrator, or an EPA representative has witnessed that any corrective action specified in the permit has been completed.

§ 147.2921 Schedule of compliance.

The permit may, when appropriate, specify a schedule of compliance leading to compliance with the Safe Drinking Water Act and the Osage UIC regulations.

(a) Any schedule of compliance shall require compliance as soon as possible, and in no case later than three years after the effective date of the permit.

(b) If a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(1) The time between interim dates shall not exceed one year.

(2) 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.

(c) The permit shall be written to require that if a schedule of compliance is applicable, progress reports be submitted no later than 30 days following each interim date and the final date of compliance.

§ 147.2922 Monitoring and reporting requirements for wells authorized by permit.

(a) The owner/operator shall notify the Osage UIC office within 30 days of the date on which injection commenced.

(b) The operator shall monitor the injection pressure (psi) and rate (bbl/

day) at least monthly, with the results reported annually. The annual reports shall specify the types or methods used to generate the monitoring data.

(c) The owner/operator shall notify the Osage UIC office within 30 days of any mechanical failure or down-hole problems involving well integrity, well workovers, or any noncompliance. (Operators should note the obligation to apply for and obtain a workover permit from the Bureau of Indian Affairs Osage Agency before reentering an injection well.) If the condition may endanger an USDW, the owner/operator shall notify the Osage UIC officer orally within 24 hours, with written notice including plans for testing and/or repair to be submitted within five days. If all the information is not available within five days, a followup report must be submitted within 30 days.

(d) The owner/operator shall retain all monitoring records for three years, unless an enforcement action is pending, and then until three years after the enforcement action has been resolved.

(e) The owner/operator shall notify the Osage UIC office in writing of a transfer of ownership at least 10 days prior to such transfer.

(Approved by the Office of Management and Budget under Control Number 2040-0042)

§ 147.2923 Corrective action for wells authorized by permit.

All improperly sealed, completed or abandoned wells (i.e., wells or well bores which may provide an avenue for movement of fluid into an UDSW) within the zone of endangering influence (as defined in § 147.2904, Area of Review) that penetrate the injection zone of a Class II well, must have corrective action taken to prevent movement of fluid into a USDW.

(a) EPA will review completion and plugging records of wells within the zone of endangering influence that penetrate the injection zone and will notify the operator when corrective action is required. Corrective action may include:

- (1) Well modifications, including:
 - (i) Recementing;

[Sec. 147.2923(a)(1)(i)]

- (ii) Workover;
 - (iii) Reconditioning; and/or
 - (iv) Plugging or re-plugging;
- (2) Permit conditions to limit injection pressure so as to prevent movement of fluid into a USDW;

(3) A more stringent monitoring program; and/or

(4) Periodic testing of other wells within the area of review to determine if significant movement of fluid has occurred. If the monitoring discussed in paragraph (a)(3) or (a)(4) of this section indicates the potential endangerment of a USDW, then action as described in paragraph (a)(1) or (a)(2) of this section must be taken.

(b) If the Regional Administrator has demonstrable knowledge that wells within the zone of endangering influence will not serve as conduits for fluid movement into a USDW, the permit may be approved without requiring corrective action. However, additional monitoring shall be required to confirm that no significant migration will occur.

§ 147.2924 Area permits.

(a) Area permits may be issued for more than one injection well if the following conditions are met:

- (1) All existing wells are described and located in the permit application;
- (2) All wells are within the same well field, project, reservoir or similar unit;
- (3) All wells are of similar construction; and
- (4) All wells are operated by the same owner/operator.

(b) Area permits shall specify:

- (1) The area within which injection is authorized; and
- (2) The requirements for construction, monitoring, reporting, operation and abandonment for all wells authorized by the permit.

(c) Area permits can authorize the construction and operation of new wells within the permit area, if:

- (1) The permittee notifies the Regional Administrator in the annual report of when and where any new wells have or will be drilled;
- (2) The new wells meet the criteria outlined in paragraphs (a) and (b) of this section; and
- (3) The effects of the new wells were addressed in the permit application

and approved by the Regional Administrator.

(The information collection requirements contained in paragraphs (a)(1) and (c)(1) were approved by the Office of Management and Budget under control number 2040-0042.)

§ 147.2925 Standard permit conditions.

(a) The permittee must comply with all permit conditions, except as authorized by an emergency permit (described in § 147.2906). Noncompliance is grounds for permit modification, permit termination or enforcement action.

(b) The permittee has a duty to halt or reduce activity in order to maintain compliance with permit conditions.

(c) The permittee shall take all reasonable steps to mitigate any adverse environmental impact resulting from noncompliance.

(d) The permittee shall properly operate and maintain all facilities installed or used to meet permit conditions. Proper operation and maintenance also includes adequate operator staffing and training, adequate funding, and adequate engineering capability available.

(e) This permit may be modified or terminated for cause (see §§ 147.2927 and 147.2928). The filing of a request by the permittee for a permit modification or termination, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.

(f) This permit does not convey any property rights, or any exclusive privilege.

(g) The permittee shall furnish, within a reasonable time, information that the Regional Administrator requests, for determination of permit compliance, or if cause exists, for permit modification or termination.

(h) The permittee shall allow EPA representatives, upon presentation of appropriate credentials or other documentation, to:

- (1) Enter permittee's premises where a regulated activity is conducted or located, or where records required by this permit are kept;
- (2) Have access to and copy records required by this permit;

(3) Inspect any facilities, equipment, practices or operations regulated or required by this permit; and

(4) Sample or monitor any substances or parameters at any location for purpose of assuring compliance with this permit or the SDWA.

(i) Monitoring and records.

(1) Samples and monitoring data shall be representative of injection activity.

(2) Permittee shall retain monitoring records for three years.

(3) Monitoring records shall include:

- (i) Date, exact place and time of sampling or measurement;
- (ii) Individual(s) who preformed the measurements;
- (iii) Date(s) analyses were performed;
- (iv) Individual(s) who performed the analyses;

(v) Analytical techniques or methods used, including quality assurance techniques employed to insure the generation of reliable data; and

(vi) Results of analyses.

(j) *Signatory requirements.* All applications, reports or information submitted to the Regional Administrator or the Osage UIC office must be signed by the injection facility owner/operator or his duly authorized representative. The person signing these documents must make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(k) *Reporting requirements.* (1) The permittee shall notify the Regional Administrator as soon as possible of any planned changes to the facility.

(2) The permittee shall give advance notice to the Regional Administrator of any planned changes which may result in noncompliance.

(3) This permit is not transferable to any person except after notice to the Regional Administrator in accordance with § 147.2926.

[Sec. 147.2925(k)(3)]

(1) A new injection well shall not commence injection until construction is complete and the Regional Administrator has been notified of completion of construction and has given his approval to commence injection.

(The information collection requirements contained in paragraphs (g) and (i) were approved by the Office of Management and Budget under control number 2040-0042)

§ 147.2926 Permit transfers.

(a) Permits may be transferred to another permittee:

(1) If the current permittee notifies the Regional Administrator at least 10 days before the proposed transfer date; and

(2) If the notice includes a written agreement between the existing and new permittees containing:

(i) A specific date for transfer of permit responsibility, coverage and liability; and

(ii) Assurance that the new permittee has a surety bond on file with BIA; and

(3) If the Regional Administrator does not respond with a notice to the existing permittee that the permit will be modified.

(b) If the conditions in paragraph (a) of this section are met, the transfer is effective on the date specified in paragraph (a)(2)(i) of this section.

(Approved by the Office of Management and Budget under control number 2040-0042)

§ 147.2927 Permit modification.

(a) Permits may be modified for the following causes only (with the exceptions listed in paragraph (b) of this section regarding minor modifications):

(1) There are substantial changes to the facility or activity which occurred after permit issuance that justify revised or additional permit conditions.

(2) The Regional Administrator has received information (e.g., from monitoring reports, inspections) which warrants a modified permit.

(3) The regulations or standards on which the permit was based have changed.

(4) The Regional Administrator has received notice of a proposed permit transfer.

(5) An interested person requests in writing that a permit be modified, and the Regional Administrator determines that cause for modification exists.

(6) Cause exists for termination under § 147.2928, but the Regional Administrator determines that permit modification is appropriate.

(b) *Minor modifications.* (1) Minor modifications do not require that the procedures listed in paragraph (c) of this section be followed.

(2) Minor modifications consist of:

(i) Correcting typographical errors;

(ii) Requiring more frequent monitoring or reporting;

(iii) Changing ownership or operational control (see § 147.2926, Permit Transfers); or

(iv) Changing quantities or types of injected fluids, provided:

(A) The facility can operate within conditions of permit;

(B) The facility classification would not change.

(c) *Modification procedures.* (1) A draft permit shall be prepared with proposed modifications.

(2) The draft permit shall follow the general permitting procedures (i.e., public comment period, etc.) before a final decision is made.

(3) Only the changed conditions shall be addressed in the draft permit or public review.

§ 147.2928 Permit termination.

(a) Permits may be terminated for the following causes only:

(1) Noncompliance with any permit condition.

(2) Misrepresentation or failure to fully disclose any relevant facts.

(3) Determination that the permitted activity endangers human health or the environment.

(4) Interested person requests in writing that a permit be terminated and the Regional Administrator determines that request is valid.

(b) *Termination procedures.* (1) The Regional Administrator shall issue notice of intent to terminate (which is a type of draft permit).

(2) Notice of intent to terminate shall follow the general permitting procedures (i.e., public comment period, etc.) before a final decision is made.

§ 147.2929 Administrative permitting procedures.

(a) *Completeness review.* (1) The Regional Administrator shall review each permit application for completeness with the application requirements in § 147.2918. The review will be completed in 10 days, and the Regional Administrator shall notify the applicant whether or not the application is complete.

(2) If the application is incomplete, the Regional Administrator shall:

(i) List the additional information needed;

(ii) Specify a date by which the information must be submitted; and

(iii) Notify the applicant when the application is complete.

(3) After an application is determined complete, the Regional Administrator may request additional information to clarify previously submitted information. The application will still be considered complete.

(4) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions taken.

(b) *Draft permits.* (1) After an application is deemed complete, the Regional Administrator shall either prepare a draft permit or notice of intent to deny the permit (which is a type of draft permit). If the Regional Administrator later decides the tentative decision to deny was wrong, he shall withdraw the notice of intent to deny and prepare a draft permit.

(2) A draft permit shall contain at least the following information:

(i) The standard permit conditions in § 147.2925;

(ii) Any monitoring and reporting requirements;

(iii) The construction and operation requirements; and

(iv) Plugging and abandonment requirements.

(c) *Statement of basis.* (1) The Regional Administrator shall prepare a

[Sec. 147.2929(c)(1)]

statement of basis for every draft permit.

(2) The statement of basis shall briefly describe the draft permit conditions and the reasons for them. In the case of a notice of intent to deny or terminate, the statement of basis shall give reasons to support the tentative decision.

(3) The statement of basis shall be sent to the applicant, and to any other person who requests a copy.

(d) *Public notice.* (1)(i) The Regional Administrator shall give public notice when:

(A) A permit application has been tentatively denied;

(B) A draft permit has been prepared;

(C) A hearing has been scheduled; or

(D) An appeal has been granted.

(ii) The applicant shall give public notice that he is submitting a permit application.

(iii) Public notice is not required when a request for permit modification or termination is denied. However, written notice will be given to the permittee and the requester.

(iv) Public notices may include more than one permit or action.

(2)(i) Public notice of a draft permit (including notice of intent to deny) shall allow at least 15 days for public comment.

(ii) Public notice of a hearing shall be given at least 30 days before the hearing.

(3)(i) Public notice given by the Regional Administrator for the reasons listed in paragraph (d)(1)(i) of this section shall be mailed to the applicant, and published in a daily or weekly paper of general circulation in the affected area.

(ii) Notice of application submission required by paragraph (d)(1)(ii) of this section shall be given to the surface landowner, tenants on the land where an injection well is located or is proposed to be located, and to each operator of a producing lease within one-half mile of the well location prior to submitting the application to the Regional Administrator.

(4) The notice of application submission in paragraphs (d)(1)(ii) and (d)(3)(ii) of this section shall contain:

(i) The applicant's name and address;

(ii) The legal location of the injection well;

(iii) Nature of activity;

(iv) A statement that EPA will be preparing a draft permit and that there will be an opportunity for public comment; and

(v) The name and phone number of EPA contact person.

(5) All other notices shall contain:

(i) The name, address, and phone number of the Osage UIC office and contact person for additional information and copies of the draft permit;

(ii) Name and address of permit applicant or permittee;

(iii) Brief description of nature of activity;

(iv) Brief description of comment period and comment procedures;

(v) Location of the information available for public review; and

(vi) In the case of a notice for a hearing the notice shall also include:

(A) Date, time, and location of hearing;

(B) Reference to date of previous notices of the same permit; and

(C) Brief description of the purpose of the hearing, including rules and procedures.

(e) *Public comments.* (1) During the public comment period, any person may submit written comments on the draft permit, and may request a public hearing. A request for hearing shall be in writing and state the issues proposed to be raised in the hearing.

(2) The Regional Administrator shall consider all comments when making the final decision, and shall respond to comments after the decision is made. The response shall:

(i) Specify if any changes were made from the draft permit to the final permit decision, and why;

(ii) Briefly describe and respond to all significant comments on the draft permit made during the comment period, or hearing, if held; and

(iii) Be made available to the public.

(f) *Public hearings.* (1) The Regional Administrator shall hold a public hearing whenever he finds a significant amount of public interest in a draft permit, based on the requests submitted, or at his discretion.

(2) Any person may submit oral or written statements and data concerning the draft permit. The public comment period shall be automatically extended to the close of any public hearing held, or may be extended by the hearing officer at the hearing.

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

(g) *Reopening of the comment period.*

(1) If any of the information submitted during the public comment period raises substantial new questions about a permit, the Regional Administrator may:

(i) Prepare a new draft permit;

(ii) Prepare a revised statement of basis; or

(iii) Reopen the comment period.

(2) Comments submitted during a reopened comment period shall be limited to the substantial new questions that caused its reopening.

(3) Public notice about any of the above actions shall be given and shall define the scope of the new questions raised.

(h) *Issuance and effective date of a permit.* (1) After the close of the comment period on a draft permit, the Regional Administrator shall make a final permit decision. The Regional Administrator shall notify the applicant and each person who commented or requested to receive notice. The notice shall include reference to the procedures for appealing a permit decision.

(2) A final permit decision shall become effective 30 days after giving notice of the decision unless:

(i) A later date is specified in the notice;

(ii) Review is requested under § 147.2929(j); or

(iii) No comments requested a change in the draft permit, in which case the permit is effective immediately upon issuance.

(i) *Stays of contested permit conditions.* If a request for review of a final UIC permit § 147.2929(j) is granted, the effect of the contested permit conditions shall be stayed and shall not be subject to judicial review pending final agency action. If the permit involves a new injection well or project, the ap-

[Sec. 147.2929(i)]

plicant shall be without a permit for the proposed well pending final agency action. Uncontested provisions which are not severable from those contested provisions shall be stayed with the contested provisions.

(j) *Appeal of permits.* (1) Any person who filed comments on the draft permit or participated in the public hearing may petition the Administrator to review any condition of the permit decision. Any person who failed to file comments or participate in the hearing may petition for administrative review only to the extent of the changes from the preliminary permit to the final permit decision.

(2) A person may request review of a final permit decision within 30 days after a final permit decision has been issued. The 30-day period within which a person may request review begins with the service of notice of the Regional Administrator's final permit decision unless a later date is specified in that notice.

(3) The petition requesting review shall include:

(i) A demonstration that the petition is eligible under the requirements of paragraph (j)(1) of this section; and, when appropriate,

(ii) A showing that the condition in question is based on:

(A) A finding of fact or conclusion of law that is clearly erroneous; or

(B) An exercise of discretion or important policy consideration which the Administrator, in his discretion, should review.

(4) The Administrator may also decide, on his initiative, to review any condition of any UIC permit issued under these requirements. The Administrator must act under this paragraph within 30 days of the date notice was given of the Regional Administrator's action.

(5) Within a reasonable time following the filing of the petition for review, the Administrator shall issue an order either granting or denying the request. To the extent that review is denied, the conditions of the final permit decision become final agency action.

(6) Public notice shall be given by the Regional Administrator of any grant of a review petition by the Ad-

ministrator. Notice shall be sent to the applicant, the person requesting the review, appropriate persons on the Osage County mailing list and to newspapers of general circulation in the county. Included in the notice shall be a briefing schedule for the appeal and a statement that any interested person may file an amicus brief. Notice of denial of the review petition will be sent only to the person(s) requesting the review.

(7) A petition to the Administrator, under paragraphs (j) (1) and (2) of this section is a prerequisite to the seeking of judicial review of the final agency action. For purposes of judicial review, final agency action occurs when a final UIC permit is issued or denied by the Regional Administrator and agency review procedures are exhausted. A final permit decision shall be issued by the Regional Administrator:

(i) When the Administrator issues notice to the parties involved that review has been denied;

(ii) When the Administrator issues a decision on the merits of the appeal and the decision does not include a remand of the proceedings; or

(iii) Upon the completion of the remand proceedings if the proceedings are remanded, unless the Administrator's remand order specifically provides that the appeal of the remand decision will be required to exhaust the administrative remedies.

(The information collection requirements contained in paragraph (a)(3) were approved by the Office of Management and Budget under control number 2040-0042)

Subpart HHH—Lands of the Navajo, Ute Mountain Ute, and All Other New Mexico Tribes

[Subpart HHH added by 53 FR 43104, October 25, 1988]

§ 147.3000 EPA-administered program.

(a) *Contents.* The UIC program for the Indian lands of the Navajo, the Ute Mountain Ute (Class II wells only on Ute Mountain Ute lands in Colorado and all wells on Ute Mountain Ute lands in

Utah and New Mexico), and all wells on other Indian lands in New Mexico is administered by EPA. (The term "Indian lands" is defined at 40 CFR 144.3.) The Navajo Indian lands are in the States of Arizona, New Mexico and Utah; and the Ute Mountain Ute lands are in Colorado, New Mexico and Utah. This program consists of the UIC program requirements of 40 CFR Parts 124, 144, and 146 and additional requirements set forth in the remainder of this subpart. The additions and modifications of this subpart apply only to the Indian lands described above. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for the UIC program on these lands is November 25, 1988.

§ 147.3001 Definition.

Area of review. For the purposes of this subpart, area of review means the area surrounding an injection well or project area described according to the criteria set forth in § 147.3009 of this subpart.

§ 147.3002 Public notice of permit actions.

An applicant shall give public notice of his intention to apply for a permit as follows:

(a) Prior to submitting an application to the Director, the applicant shall give notice to each landowner, tenant, and operator of a producing lease within one-half mile of the well and to the affected Tribal Government. The notice shall include:

(1) Name and address of applicant;

(2) A brief description of the planned injection activities including well location, name and depth of the injection zone, maximum injection pressure and volume, and source and description of the fluid to be injected;

(3) Name, address, and phone number of the EPA contact person; and

(4) A statement that opportunity to comment will be announced to the public after EPA prepares a draft permit.

(b) In addition to the requirements of § 144.31(e) of this chapter, a permit applicant shall submit a description of

[Sec. 147.3002(b)]

the way the notice was given and the names and addresses of those to whom it was given.

(c) Upon written request and supporting documentation, the Director may waive the requirement in paragraph (a) of this section to give individual notice of intent to apply for permits in an area where it would be impractical. However, notice to the affected Tribal government shall not be waived.

(d) The Director shall also provide to the affected Tribal government all notices given to State governments under § 124.10(c) of this chapter.

§ 147.3003 Aquifer exemptions.

(a) *Aquifer exemptions in connection with Class II wells.* In accordance with § 144.7(b) and § 146.4 of this chapter, the portions of authorized injection zones into which existing Class II wells are currently injecting which are described in Appendix A are hereby exempted. The exempted aquifers are defined by a one-quarter mile radius from the existing injection well. The exemption includes the intended injection zone only and is solely for the purpose of Class II injection.

(b) *Class III wells.* In addition to the requirements of § 144.7(c)(1) of this chapter, an applicant for a uranium mining permit which necessitates an aquifer exemption shall submit a plugging and abandonment plan containing an aquifer cleanup plan, acceptable to the Director, describing the methods or techniques that will be used to meet the standards of § 147.3011. The cleanup plan shall include an analysis of pre-injection water quality for the constituents required by the Director. The Director shall consider the cleanup plan in addition to the other information required for permit applications under §§ 144.31(e) and 146.34 of this chapter.

§ 147.3004 Duration of rule authorization for existing Class I and III wells.

Notwithstanding § 144.21(a)(3)(i)(B) of this chapter, authorization by rule for existing Class I and III wells will expire 90 days after the effective date of this UIC program unless a complete permit

application has been submitted to the Director.

§ 147.3005 Radioactive waste injection wells.

Notwithstanding §§ 144.24 and 146.51(b) of this chapter, owners and operators of wells used to dispose of radioactive waste (as defined in 10 CFR Part 20, Appendix B, Table II, but not including high level and transuranic waste and spent nuclear fuel covered by 40 CFR Part 191) shall comply with the permitting requirements pertaining to Class I wells in Parts 124, 144 and 146 of this chapter, as modified and supplemented by this subpart.

§ 147.3006 Injection pressure for existing Class II wells authorized by rule.

(a) *Rule-authorized Class II saltwater disposal wells.* In addition to the requirements of § 144.28(f)(3)(ii) of this chapter, the owner or operator shall, except during well stimulation, use an injection pressure measured at the wellhead that is not greater than the pressure calculated by using the following formula: $P_m = 0.2d$

where:

P_m = injection pressure at the wellhead in pounds per square inch
 d = depth in feet to the top of the injection zone.

Owners and operators shall comply with this requirement no later than one year after the effective date of this program.

(b) *Rule-authorized Class II enhanced recovery and hydrocarbon storage wells.* (1) In addition to the requirements of § 144.28(f)(3)(ii) of this chapter, owners and operators shall use an injection pressure no greater than the pressure established by the Director for the field or formation in which the well is located. The Director shall establish such maximum pressure after notice (including notice to the affected Tribe), opportunity for comment, and opportunity for public hearing according to the provisions of Part 124, Subpart A, of this chapter, and shall inform owners and operators and the affected Tribe in writing of the applicable maximum pressure; or

(2) An owner or operator may inject at a pressure greater than that specified in

paragraph (b)(1) of this section for the field or formation in which he is operating after demonstrating in writing to the satisfaction of the Director that such injection pressure will not violate the requirements of § 144.28(f)(3)(ii) of this chapter. The Director may grant such a request after notice (including notice to the affected Tribe), opportunity for comment and opportunity for a public hearing according to the provisions of Part 124, Subpart A of this chapter.

(3) Prior to the time that the Director establishes rules for maximum injection pressure under paragraph (b)(1) of this section the owner or operator shall:

- (i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and
- (ii) Submit data acceptable to the Director which defines the fracture pressure of the formation in which injection is taking place. A single submission may be made on behalf of two or more operators conducting operations in the same field and formation, if the Director approves. The data shall be submitted to the Director within one year of the effective date of this program.

§ 147.3007 Application for a permit.

(a) Notwithstanding the requirements of § 144.31(c)(1) of this chapter, the owner or operator of an existing Class I or III well shall submit a complete permit application no later than 90 days after the effective date of the program.

(b) The topographic map (or other map if a topographic map is unavailable) required by § 144.31(e)(7) of this chapter, shall extend two miles from Class II wells, and 2½ miles from Class I and III wells. These maps will show all the information listed in paragraph 144.31(e)(7) within ½ mile for Class II wells and 2½ miles for Class I and III wells.

§ 147.3008 Criteria for aquifer exemptions.

The aquifer exemption criterion in § 146.4(c) of this chapter shall not be available for this program.

§ 147.3009 Area of review.

The area of review shall be defined as follows:

(a) *Class II wells.* The area of review for Class II permits and area permits shall be defined by a fixed radius as described in § 146.6(b) (1) and (2) of this chapter except that the radius shall be one-half mile.

(b) *Class I and III wells.* The area of review for Class I and III wells are well fields which may be either:

(1) An area defined by a radius two and one-half miles from the well or well field; or

(2) An area one-quarter mile from the well or well field where the well field production at the times exceeds injection to produce a net withdrawal; or

(3) A suitable distance, not less than one-quarter mile, proposed by the owner or operator and approved by the Director based upon a mathematical calculation such as that found in § 146.6(a)(2) of this chapter.

§§ 147.3010 Mechanical integrity tests.

The monitoring of annulus pressure listed in 146.8(b)(1) of this chapter will only be acceptable if preceded by a pressure test, using liquid or gas that clearly demonstrates that mechanical integrity exists at the time of the pressure test.

§ 147.3011 Plugging and abandonment of Class III wells.

To meet the requirements of paragraph 146.10 (d) of this chapter, owners and operators of Class III uranium projects underlying or in aquifers containing up to 5,000 mg/l TDS which have been exempted under § 146.4 of this chapter shall:

(a) Include in the required plugging and abandonment plan a plan for aquifer clean-up and monitoring which demonstrates adequate protection of surrounding USDWs.

(1) The Director shall include in each such permit for a Class III uranium project the concentrations of contaminants to which aquifers must be cleaned up in order to protect surrounding USDWs.

(2) The concentrations will be set as close as is feasible to the original conditions.

(b) When requesting permission to plug a well, owners and operators shall submit for the Director's approval a schedule for the proposed aquifer

cleanup, in addition to the information required by § 146.34(c).

(c) Cleanup and monitoring shall be continued until the owner or operator certifies that no constituent listed in the permit exceeds the concentrations required by the permit, and the Director notifies the permittee in writing that cleanup activity may be terminated.

§ 147.3012 Construction requirements for Class I wells.

In addition to the cementing requirement of § 146.12(b) of this chapter, owners and operators of Class I wells shall, through circulation, cement all casing to the surface.

§ 147.3013 Information to be considered for Class I wells.

(a) In addition to the information listed in § 146.14(a) of this chapter, the Director shall consider the following prior to issuing any Class I permit:

(1) Expected pressure changes, native fluid displacement, and direction of movement of the injected fluid; and

(2) Methods to be used for sampling, and for measurement and calculation of flow.

(b) In addition to the information listed in § 146.14(b) of this chapter, the Director shall consider any information required under § 146.14(a) of this chapter (as supplemented by this subpart) that has been gathered during construction.

§ 147.3014 Construction requirements for Class III wells.

(a) In addition to the requirements of § 146.32(c)(3) of this chapter, radiological characteristics of the formation fluids shall be provided to the Director.

(b) In addition to the requirements of § 146.32(e) of this chapter, the Director may require monitoring wells to be completed into USDWs below the injection zone if those USDWs may be affected by mining operations.

§ 147.3015 Information to be considered for Class III wells.

(a) In addition to the requirements of § 146.34(a) of this chapter, the following information shall be considered by the Director:

(1) Proposed construction procedures, including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing and coring program.

(2) Depth to the proposed injection zone, and a chemical, physical and radiological analysis of the ground water in the proposed injection zone sufficient to define pre-injection water quality as required for aquifer cleanup by § 147.3011 of this subpart.

(3) An aquifer cleanup plan if required by § 147.3003(b) of this subpart.

(4) Any additional information that may be necessary to demonstrate that cleanup will reduce the level of contaminants in the surrounding USDWs as close as feasible to the original conditions.

(b) In addition to the requirements of § 146.34(b) of this chapter, the Director shall consider any information required under § 146.34(a) of this chapter (as supplemented by this subpart) that has been gathered during construction.

§ 147.3016 Criteria and standards applicable to Class V wells.

In addition to the criteria and standards applicable to Class V wells set forth in Subpart F of Part 146 of this chapter, owners and operators of wells that do not fall within the Class IV category but that are used to dispose of radioactive wastes (as defined in 10 CFR Part 20, Appendix B, Table II, Column 2, but not including high level and transuranic wastes and spent nuclear fuel covered by 40 CFR Part 191) shall comply with all of the requirements applicable to Class I injection wells in 40 CFR Parts 124, 144 and 146 as supplemented by this subpart.

Appendix A to Subpart HHH—Exempted Aquifers in New Mexico

The areas described by a one-quarter mile radius around the following Class II wells in the listed formations are exempted for the purpose of Class II injection.

[Sec. 147.3016]

	Sec.					Well No.
Arco Oil & Gas Co.—Operator/Horseshoe Gallup—Field/Gallup—Formation						
SE/NE.....	5	T30N	R16W	1650'FNL	330'FEL	134
NW/NW.....	30	T31N	R16W	660'FNL	703'FWL	8
SE/SW.....	28	T31N	R16W	790'FSL	2150'FWL	167
NW/SE.....	33	T31N	R16W	1710'FSL	2310'FEL	199
SE/NW.....	35	T31N	R16W	2105'FNL	2105'FWL	196
NW/NW.....	4	T30N	R16W	455'FNL	4435'FEL	219
NW/SW.....	33	T31N	R16W	1980'FSL	386'FWL	65
NW/SE.....	27	T31N	R16W	1980'FSL	2080'FEL	164
SE/SE.....	30	T31N	R16W	660'FSL	660'FEL	5
NW/NW.....	34	T31N	R16W	730'FNL	515'FWL	180
NW/NE.....	34	T31N	R16W	813'FNL	2036'FEL	182
NW/NE.....	2	T30N	R16W	720'FNL	2040'FEL	229
NW/NW.....	29	T31N	R16W	660'FNL	660'FWL	24
NW/SW.....	13	T31N	R17W	1975'FSL	670'FWL	77
NW/SE.....	29	T31N	R16W	1980'FSL	1980'FEL	22
SE/SW.....	27	T31N	R16W	660'FSL	1980'FWL	171
NW/SW.....	35	T31N	R16W	1980'FSL	660'FWL	205
SE/NW.....	30	T31N	R16W	1980'FNL	2061'FWL	7
NW/NE.....	31	T31N	R16W	660'FNL	1980'FEL	17
NW/NE.....	4	T30N	R16W	330'FNL	2160'FEL	221
NW/NE.....	29	T31N	R16W	660'FNL	1980'FEL	26
SE/NE.....	34	T31N	R16W	1990'FNL	645'FEL	194
SE/SE.....	31	T31N	R16W	640'FSL	660'FEL	27
NE/SW.....	14	T31N	R17W	2250'FSL	2630'FWL	94
NE/NW.....	14	T31N	R17W	625'FNL	1995'FWL	69
SE/NW.....	10	T30N	R16W	1900'FNL	2080'FWL	271
SE/SE.....	29	T31N	R16W	560'FSL		21
SE/NE.....	30	T31N	R16W	1980'FNL	660'FEL	10
SE/NW.....	29	T31N	R16W	2080'FNL	1980'FWL	23
NW/SE.....	25	T31N	R17W	1980'FSL	1980'FEL	122
SE/SW.....	32	T31N	R16W	660'FSL	1980'FWL	14
NW/SW.....	30	T31N	R16W	2021'FSL	742'FWL	19
SE/SW.....	13	T31N	R17W	660'FSL	1980'FWL	82
NW/NW.....	27	T31N	R16W	520'FNL	660'FWL	150
SE/SE.....	28	T31N	R16W	660'FSL	660'FEL	169
NW/SW.....	29	T31N	R16W	1980'FSL	660'FWL	11
SE/NW.....	34	T31N	R16W	2310'FNL	1650'FWL	192
SE/NW.....	29	T31N	R16W	660'FSL	1980'FWL	12
NW/SW.....	27	T31N	R16W	1650'FSL	330'FWL	162
NE/SE.....	23	T31N	R17W	1880'FSL	340'FEL	96
NW/SW.....	24	T31N	R17W	2050'FSL	990'FWL	97
SE/NW.....	4	T30N	R16W	2060'FNL	1710'FWL	232
NW/NW.....	31	T31N	R16W	620'FNL	701'FWL	30
NW/SE.....	35	T31N	R16W	1980'FSL	1980'FEL	207
SE/NE.....	32	T31N	R16W	1980'FNL	417'FEL	20
NE/NW.....	28	T31N	R16W	1980'FNL	1980'FEL	152
NE/NW.....	34	T31N	R16W	2140'FSL	735'FWL	201
SE/NW.....	3	T30N	R16W	2310'FNL	1640'FWL	236
SE/SW.....	34	T31N	R16W	660'FSL	1980'FWL	213
NW/NE.....	30	T31N	R16W	660'FNL	1980'FEL	9
SE/SW.....	26	T31N	R16W	660'FSL	1980'FWL	175
NW/SE.....	30	T31N	R16W	1980'FSL	1980'FEL	6
SE/NW.....	9	T30N	R16W	1650'FNL	2131'FWL	264
NW/SW.....	4	T30N	R16W	2310'FSL	4390'FEL	242
NW/SW.....	2	T30N	R16W	1980'FSL	660'FWL	250
NW/NW.....	33	T31N	R16W	660'FNL	386'FWL	66
NE/NE.....	15	T31N	R17W	660'FNL	660'FEL	67
NW/NE.....	33	T31N	R16W	660'FNL	1980'FEL	178
NW/SE.....	24	T31N	R17W	1875'FSL	1900'FEL	99
NW/NE.....	28	T31N	R16W	660'FNL	1980'FEL	148
NW/NW.....	19	T31N	R16W	680'FNL	682'FWL	89
NW/SE.....	4	T30N	R16W	1820'FSL	2130'FEL	244
SE/SW.....	20	T31N	R16W	660'FSL	1980'FWL	115
NW/NE.....	25	T31N	R17W	660'FNL	1980'FEL	118
SE/SW.....	4	T30N	R16W	660'FSL	3300'FEL	253
NW/SW.....	19	T31N	R16W	1980'FSL	706'FWL	101

[Sec. 147.3016]

	Sec.					Well No.
NW/SE.....	32	T31N	R16W	1950 FSL	1980 FEL	22
NW/NW.....	35	T31N	R16W	605 FNL	690 FWL	184
SE/NE.....	29	T31N	R16W	1980 FNL	417 FEL	25
SE/NW.....	19	T31N	R16W	1980 FNL	2023 FWL	95
NW/NW.....	32	T31N	R16W	660 FNL	660 FWL	4
SE/SW.....	24	T31N	R17W	660 FSL	3300 FEL	107
SE/NE.....	28	T31N	R16W	2105 FNL	940 FEL	154
NW/NE.....	35	T31N	R16W	610 FNL	2000 FEL	166
SE/SW.....	5	T31N	R16W	990 FSL	2310 FWL	139
NW/SE.....	28	T31N	R16W	1980 FSL	1980 FEL	160
SE/SE.....	33	T31N	R16W	330 FSL	990 FEL	211
NW/NE.....	5	T30N	R16W	330 FNL	1650 FEL	128
SE/NW.....	27	T31N	R16W	1900 FNL	2050 FWL	156
SE/SW.....	35	T31N	R16W	660 FSL	1980 FWL	217
NW/NW.....	10	T30N	R16W	526 FNL	330 FWL	265
NE/SW.....	21	T31N	R16W	1880 FSL	1980 FWL	143
NW/NE.....	24	T31N	R17W	409 FNL	1914 FEL	87
NW/SW.....	32	T31N	R16W	1980 FSL	660 FWL	15
SE/SE.....	34	T31N	R16W	960 FSL	910 FEL	215
SW/SE.....	21	T31N	R16W	820 FSL	1820 FEL	145
SE/SE.....	27	T31N	R16W	610 FSL	640 FEL	173
NW/SW.....	3	T30N	R16W	1920 FSL	350 FWL	248
SE/SW.....	19	T31N	R16W	601 FSL	2002 FWL	111
SW/SE.....	14	T31N	R17W	330 FSL	3900 FEL	79
NW/NW.....	27	T31N	R16W	520 FNL	660 FWL	150
SE/NW.....	31	T31N	R16W	1724 FNL	2067 FWL	29
NW/NE.....	32	T31N	R16W	660 FNL	1980 FEL	13
SE/NE.....	24	T31N	R17W	1998 FNL	702 FEL	93
NW/NW.....	5	T30N	R16W	660 FNL	660 FWL	126
NW/SW.....	28	T31N	R16W	1740 FSL	590 FWL	158
SE/NE.....	31	T31N	R16W	1980 FNL	660 FEL	16
NW/NW.....	24	T31N	R17W	660 FNL	760 FWL	85

Energy Reserve Backup Inc.—Operator/Horseshoe Gallup—Field/Gallup—Formation

SE/SE.....	5	T31N	R17W	660 FSL	660 FEL	4
NE/SW.....	10	T30N	R16W	1970 FSL	2210 FWL	31
SE/NW.....	11	T30N	R16W	2090 FNL	2190 FWL	29
SE/SE.....	10	T30N	R16W	700 FSL	500 FEL	37

Solar Petroleum Inc.—Operator/Horseshoe—Field/Gallup—Formation

SW/SE.....	11	T31N	R17W	736 FSL	2045 FEL	205
SE/NE.....	9	T31N	R17W	1980 FNL	660 FEL	122
NW/SE.....	4	T31N	R17W	1980 FSL	1980 FFL	127
NE/NE.....	10	T31N	R17W	660 FNL	660 FEL	136
SE/SW.....	4	T31N	R17W	660 FSL	1980 FWL	125
SW/NW.....	11	T31N	R17W	2300 FNL	660 FWL	206
NW/SW.....	4	T31N	R17W	1980 FSL	660 FWL	103
SE/NW.....	4	T31N	R17W	1980 FNL	1980 FWL	128
NW/NW.....	4	T31N	R17W	660 FNL	660 FWL	101
SW/NE.....	10	T31N	R17W	1980 FNL	1980 FEL	117
SW/NW.....	10	T31N	R17W	1980 FNL	660 FWL	108
SW/SW.....	10	T31N	R17W	660 FSL	660 FWL	114
SW/SE.....	3	T31N	R17W	330 FSL	2310 FEL	143
SE/NE.....	5	T31N	R17W	1980 FNL	660 FEL	302
NE/NE.....	5	T31N	R17W	1950 FNL	1050 FEL	307
SE/SE.....	9	T31N	R17W	990 FSL	850 FEL	140
NE/NW.....	10	T31N	R17W	660 FNL	1980 FWL	118
SW/SW.....	11	T31N	R17W	660 FSL	660 FWL	204
NW/SE.....	9	T31N	R17W	1980 FSL	1980 FEL	115
SW/SE.....	10	T31N	R17W	990 FSL	1980 FEL	144
NW/NE.....	9	T31N	R17W	660 FNL	1980 FEL	123
NE/SW.....	10	T31N	R17W	1980 FSL	1980 FWL	109
NE/SW.....	11	T31N	R17W	1980 FSL	1980 FWL	203
SE/NW.....	9	T31N	R17W	1980 FNL	1980 FWL	134
NW/SW.....	3	T31N	R17W	1980 FSL	660 FWL	132
SW/SW.....	3	T31N	R17W	560 FSL	660 FWL	110
NW/NW.....	9	T31N	R16W	660 FNL	660 FWL	133
SE/SE.....	4	T31N	R17W	660 FSL	660 FEL	124

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WTR Oil Co.—Operator/Horseshoe Gallup—Field/Gallup—Formation						
NE/SW.....	33	T32N	R17W	1960'FSL	1989'FWL	2
Arco Oil & Gas Co.—Operator/Many Rocks Gallup—Field/Gallup—Formation						
NW/NW.....	7	T31N	R16W	898'FNL	500'FWL	2
SW/NE.....	17	T31N	R16W	1673'FNL	1789'FEL	21
NW/SE.....	17	T31N	R16W	1890'FSL	2150'FEL	23
SW/NE.....	7	T31N	R16W	2310'FNL	2310'FEL	6
NE/SW.....	8	T31N	R16W	1650'FSL	1650'FWL	12
NE/NW.....	17	T31N	R16W	660'FNL	2030'FWL	18
NE/NE.....	18	T31N	R16W	360'FNL	855'FEL	16
SE/SW.....	7	T31N	R16W	716'FSL	2185'FWL	13
SE/SE.....	17	T31N	R16W	660'FSL	660'FEL	26
NE/SW.....	17	T31N	R16W	2040'FSL	2070'FWL	22
SW/SW.....	6	T31N	R16W	330'FSL	330'FWL	1
SW/NW.....	17	T31N	R16W	2073'FNL	641'FWL	19
NW/SW.....	17	T31N	R16W	1967'FSL	981'FWL	8
James P. Woosley—Operator/Many Rocks Gallup—Field/Gallup—Formation						
NW/NE.....	20	T32N	R17W	330'FNL	2310'FEL	13
SW/SW.....	27	T32N	R17W	660'FSL	990'FWL	1
SW/NW.....	17	T32N	R17W	2310'FWL	330'FWL	4
SW/NW.....	27	T32N	R17W	260'FWL	1360'FNL	11
NE/SW.....	27	T32N	R17W	1980'FSL	1980'FWL	6
NE/SE.....	18	T32N	R17W	2474'FSL	133'FEL	18
SW/SE.....	27	T32N	R17W	625'FNL	2000'FEL	3
NE/SE.....	28	T32N	R17W	1980'FSL	330'FEL	12
Solar Petroleum Inc.—Operator/Many Rocks Gallup—Field/Gallup—Formation						
SE/NW.....	1	T31N	R17W	1980'FNL	1980'FWL	216
NW/NE.....	2	T31N	R17W	805'FNL	940'FEL	215
SE/NE.....	2	T31N	R17W	1980'FNL	660'FEL	218
NW/SW.....	1	T31N	R17W	2310'FSL	990'FNL	223
SE/NE.....	12	T31N	R17W	1820'FNL	500'FEL	217
WTR Oil Co.—Operator/Many Rocks Gallup—Field/Gallup—Formation						
NW/NW.....	35	T32N	R17W	810'FNL	510'FWL	11
SE/SE.....	35	T32N	R17W	660'FSL	660'FEL	6
SE/NE.....	34	T32N	R17W	775'FEL	1980'FNL	8
SE/NW.....	35	T32N	R16W	1980'FNL	1980'FWL	9
NW/SE.....	35	T32N	R17W	1980'FSL	1980'FEL	7
Chaco Oil Co.—Operator/Red Mtn Meseverde—Field/Menefee—Formation						
NE/NE.....	29	T20N	R9W	395'FNL	1265'FEL	6
SE/SW.....	20	T20N	R9W	442'FSL	2430'FWL	17
Geo Engineering Inc.—Operator/Red Mtn Meseverde—Field/Menefee—Formation						
NW/NE.....	29	T20N	R9W	160'FNL	2135'FEL	35
NE/NE.....	29	T20N	R9W	225'FNL	1265'FEL	7
SE/NW.....	29	T20N	R9W	1344'FNL	2555'FWL	20
NW/NE.....	29	T20N	R9W	615'FNL	1920'FEL	5
NE/NW.....	29	T20N	R9W	834'FNL	2113'FWL	21
SW/SE.....	20	T20N	R9W	265'FSL	2150'FEL	36
NE/NE.....	29	T20N	R9W	5'FNL	1130'FEL	8
SE/SE.....	20	T20N	R9W	450'FSL	1145'FEL	24
SE/SE.....	20	T20N	R9W	890'FSL	1280'FEL	10
NW/NE.....	29	T20N	R9W	1115'FNL	2325'FEL	22
SE/SE.....	20	T20N	R9W	1085'FSL	860'FEL	12
Tesoro Petroleum Co.—Operator/S. Hospah Lower Sand—Field/Hospah—Formation						
NW/SE.....	6	T17N	R8W	2310'FSL	2310'FEL	28
SW/SE.....	6	T17N	R8W	990'FSL	2310'FEL	34
SW/SW.....	6	T17N	R8W	5'FSL	20'FWL	18
SE/SW.....	6	T17N	R8W	5'FSL	2635'FWL	20

[Sec. 147.3016]

Subpart III—Lands of Certain Oklahoma Indian Tribes

[Subpart III added by 53 FR 43104 October 25, 1988]

§ 147.3100 EPA-administered program.

(a) *Contents.* The UIC program for the Indian lands in Oklahoma, except for that covering the Class II wells of the Five Civilized Tribes, is administered by EPA. The UIC program for all wells on Indian lands in Oklahoma, except Class II wells on the Osage Mineral Reserve (found at 40 CFR Part 147, Subpart GGG) and the Class II program for the Five Civilized Tribes consists of the requirements of 40 CFR Parts 124, 144, and 146 and additional requirements set forth in the remainder of this subpart. Injection well owners and operators and EPA shall comply with these requirements.

(b) *Effective date.* The effective date for the UIC program for all wells on Indian lands except Class II wells on the Osage Mineral Reserve and Class II wells on the lands of the Five Civilized Tribes is November 25, 1988.

§ 147.3101 Public notice of permit actions.

(a) In addition to the notice requirements of § 124.10 of this chapter, the Director shall provide to the affected Tribal government all notices given to an affected State government under § 124.10(c) of this chapter.

(b) *Class I and III wells.* In addition to the notice requirements of § 124.10 of this chapter:

(1) Owners and operators of Class I and III wells shall notify the affected Tribal government prior to submitting an application for a permit, shall publish such notice in at least two newspapers of general circulation in the area of the proposed well, and shall broadcast notice over at least one local radio station.

(2) The Director shall publish a notice of availability of a draft permit in at least two newspapers of general circulation in the area of the proposed well, and broadcast notice over at least one local radio station. The public notice shall allow at least 45 days for public comment.

(c) *Class II wells.* In addition to the notice requirements of § 124.10 of this chapter:

(1) Owners and operators of Class II wells shall give notice of application for a permit to the affected Tribal government prior to submitting the application to the Director.

(2) In addition to the public notice required for each action listed in § 124.10(a) of this chapter, the Director shall also publish notice in a daily or weekly newspaper of general circulation in the affected area for actions concerning Class II wells.

§ 147.3102 Plugging and abandonment plans.

In lieu of the requirements of § 144.28(c)(1) and (2)(i)-(iii) of this chapter, owners and operators of Class II wells shall comply with the plugging and abandonment provisions of § 147.3108 of this subpart.

§ 147.3103 Fluid seals.

Notwithstanding § 144.28(f)(2) and § 146.12(c) of this chapter, owners and operators shall not use a fluid seal as an alternative to a packer.

§ 147.3104 Notice of abandonment.

(a) In addition to the notice required by § 144.28(j)(2) of this chapter, the owner or operator shall at the same time submit plugging information in conformance with § 147.3108 of this subpart including:

- (1) Type and number of plugs;
- (2) Elevation of top and bottom of each plug;
- (3) Method of plug placement; and
- (4) Type, grade and quantity of cement to be used.

(b) In addition to the permit conditions specified in §§ 144.51 and 144.52 of this chapter, each owner and operator shall submit and each permit shall contain the following information (in conformance with 146.3108 of this subpart):

- (1) Type and number of plugs;
- (2) Elevation of top and bottom of each plug;
- (3) Method of plug placement; and
- (4) Type, grade and quantity of cement to be used.

§ 147.3105 Plugging and abandonment report.

(a) In lieu of the time periods for submitting a plugging report in § 144.28(k) of this chapter, owners and operators of Class I and III wells shall submit the report within 15 days of plugging the well and owners or operators of Class II wells within 30 days of plugging, or at the time of the next required operational report (whichever is less.) If the required operational report is due less than 15 days following completion of plugging, then the plugging report shall be submitted within 30 days for Class II wells and 15 days for Class I and III wells.

(b) In addition to the requirement of § 144.28(k)(1) of this chapter, owners and operators of Class II wells shall include a statement that the well was plugged in accordance with § 146.10 of this chapter and § 147.3109 of this subpart, and, if the actual plugging differed, specify the actual procedures used.

(c) The schedule upon which reports of plugging must be submitted are changed from those in § 144.51(o) to those specified in paragraph (a) of this section.

§ 147.3106 Area of review.

(a) When determining the area of review under § 146.6(b) of this chapter, the fixed radius shall be no less than one mile for Class I wells and one-half mile for Class II and III wells. In the case of an application for an area permit, determination of the area of review under § 146.6(b) shall be a fixed width of not less than one mile for the circumscribing area of Class I projects and one-half mile for the circumscribing area of Class II and III projects.

(b) However, in lieu of § 146.6(c) of this chapter, if the area of review is determined by a mathematical model pursuant to paragraph § 146.6(a) of this chapter, the permissible radius is the result of such calculation even if it is less than one mile for Class I wells and one-half for Class II and III wells.

[Sec. 147.3106(b)]

§ 147.3107 Mechanical integrity.

(a) Monitoring of annulus pressure conducted pursuant to § 146.8(b)(1) shall be preceded by an initial pressure test. A positive gauge pressure on the casing/tubing annulus (filled with liquid) shall be maintained continuously. The pressure shall be monitored monthly.

(b) Pressure tests conducted pursuant to § 146.8(b)(2) of this chapter shall be performed with a pressure on the casing/tubing annulus of at least 200 p.s.i. unless otherwise specified by the Director. In addition, pressure tests conducted during well operation shall maintain an injection/annulus pressure differential of at least 100 p.s.i. throughout the tubing length.

(c) Monitoring of enhanced recovery wells conducted pursuant to § 146.8(b)(3), must be preceded by an initial pressure test that was conducted no more than 90 days prior to the commencement of monitoring.

§ 147.3108 Plugging Class I, II, and III wells.

In addition to the requirements of § 146.10 of this chapter, owners and operators shall comply with the following when plugging a well:

(a) For Class I and III wells:

(1) The well shall be filled with mud from the bottom of the well to a point one hundred (100) feet below the top of the highest disposal or injection zone and then with a cement plug from there to at least one hundred (100) feet above the top of the disposal or injection zone.

(2) A cement plug shall also be set from a point at least fifty (50) feet below the shoe of the surface casing to a point at least five (5) feet above the top of the lowest USDW.

(3) A final cement plug shall extend from a point at least thirty feet below the ground surface to a point five (5) feet below the ground surface.

(4) All intervals between plugs shall be filled with mud.

(5) The top plug shall clearly show by permanent markings inscribed in the cement or on a steel plate embedded in the cement the well permit number and date of plugging.

(b) For Class II wells:

(1) The well shall be kept full of mud as casing is removed. No surface casing shall be removed without written approval from the Director.

(2) If surface casing is adequately set and cemented through all USDWs (set to at least 50 feet below the base of the USDW), a plug shall be set at least 50 feet below the shoe of the casing and extending at least 50 feet above the shoe of the casing; or

(3) If the surface casing and cementing is inadequate, the well bore shall be filled with cement from a point at least 50 feet below the base of the USDW to a point at least 50 feet above the shoe of the surface casing, and any additional plugs as required by the Director.

(4) In all cases, the top 20 feet of the well bore below 3 feet of ground surface shall be filled with cement. Surface casing shall be cut off 3 feet below ground surface and covered with a secure steel cap on top of the surface pipe. The remaining 3 feet shall be filled with dirt.

(5) Except as provided in subparagraph (b)(6) of this section, each producing or receiving formation shall be sealed off with at least a 50-foot cement plug placed at the base of the formation and at least a 50-foot cement plug placed at the top of the formation.

(6) The requirement in subparagraph (b)(5) of this section does not apply if the producing/receiving formation is already sealed off from the well bore with adequate casing and cementing behind casing, and casing is not to be

removed, or the only openings from the producing/receiving formation into the well bore are perforations in the casing, and the annulus between the casing and the outer walls of the well is filled with cement for a distance of 50 feet above the top of the formation. When such conditions exist, a bridge plug capped with at least 10 feet of cement set at the top of the producing formation may be used.

(7) When specified by the Director, any uncased hole below the shoe of any casing to be left in the well shall be filled with cement to a depth of at least 50 feet below the casing shoe, or the bottom of the hole, and the casing above the shoe shall be filled with cement to at least 50 feet above the shoe of the casing. If the well has a screen or liner which is not to be removed, the well bore shall be filled with cement from the base of the screen or liner to at least 50 feet above the top of the screen or liner.

(8) All intervals between cement plugs in the well bore must be filled with mud.

(c) For the purposes of this section mud shall be defined as: mud of not less than thirty-six (36) viscosity (API Full Funnel Method) and a weight of not less than nine (9) pounds per gallon.

§ 147.3109 Timing of mechanical integrity test.

The demonstrations of mechanical integrity required by § 146.14(b)(2) of this chapter prior to approval for the operation of a Class I well shall, for an existing well, be conducted no more than 90 days prior to application for the permit and the results included in the permit application. The owner or operator shall notify the Director at least seven days in advance of the time and date of the test so that EPA observers may be present.

[Sec. 147.3109]