Boundaries of the formal Navajo Reservation, including the three satellite reservations (Alamo, Canoncito and Ramah), but excluding the former Bennett Freeze Area, the Four Corners Power Plant and the Navajo Generating Station; and on Navajo Nation tribal trust lands and trust allotments outside those exterior boundaries (collectively referred to as “Navajo Indian lands for which EPA has granted the Navajo Nation primacy for the SDWA Class II UIC program”), is the program approved by EPA pursuant to section 1425 of the SDWA. Notice of this approval was published in the Federal Register on November 4, 2008; the effective date of this program is December 4, 2008. This program consists of the following elements as submitted to EPA in the Navajo Nation’s program application:

(a) Incorporation by reference. The requirements set forth in the Navajo Nation Statutes, Regulations and Resolution notebook, dated October 2008, are hereby incorporated by reference and made part of the applicable UIC program under the SDWA for Class II injection wells on Navajo Indian lands for which EPA has granted the Navajo Nation primacy for the SDWA Class II UIC program (as defined in this section). 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 or inspected at the Navajo Nation Environmental Protection Agency UIC Office, Old NAPA Auto Parts Building (Tribal Bldg. #S009–080), Highway 64, Shiprock, New Mexico 87420 (505–368–1040), at the Environmental Protection Agency, Region 9, 75 Hawthorne Street, San Francisco, California 94105–3920 (415–972–3533), or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) Memorandum of Agreement (MOA). The MOA between EPA Region 9 and the Navajo Nation, signed by the EPA Regional Administrator on August 21, 2001. The Criminal Enforcement MOA between EPA Region 9 and the Navajo Nation, signed by EPA on October 30, 2006.


(2) “Statement of the Attorney General of the Navajo Nation Regarding the Regulatory Authority and Jurisdiction of the Navajo Nation with Respect To Its Underground Injection Control Program”, July 3, 2002.

(3) “Supplemental Statement of the Navajo Nation Attorney General Regarding the Regulatory Authority and Jurisdiction of the Navajo Nation to Operate an Underground Injection Control Program under the Safe Drinking Water Act”, October 11, 2006.

(d) Program Description. The Program Description submitted as part of the Navajo Nation’s application, and any other materials submitted as part of this application or as a supplement thereto.

[73 FR 65565, Nov. 4, 2008]

PART 148—HAZARDOUS WASTE INJECTION RESTRICTIONS

Subpart A—General

Sec. 148.1 Purpose, scope and applicability.
148.2 Definitions.
148.3 Dilution prohibited as a substitute for treatment.
148.4 Procedures for case-by-case extensions to an effective date.
148.5 Waste analysis.

Subpart B—Prohibitions on Injection

148.10 Waste specific prohibitions—solvent wastes.
148.11 Waste specific prohibitions—dioxin-containing wastes.
148.12 Waste specific prohibitions—California list wastes.
148.14 Waste specific prohibitions—first third wastes.
148.15 Waste specific prohibitions—second third wastes.
148.16 Waste specific prohibitions—third third wastes.
148.17 Waste specific prohibitions; newly listed wastes.
148.18 Waste specific prohibitions—newly listed and identified wastes.
§ 148.1 Purpose, scope and applicability.
(a) This part identifies wastes that are restricted from disposal into Class I wells and defines those circumstances under which a waste, otherwise prohibited from injection, may be injected.
(b) The requirements of this part apply to owners or operators of Class I hazardous waste injection wells used to inject hazardous waste.
(c) Wastes otherwise prohibited from injection may continue to be injected:
(1) If an extension from the effective date of a prohibition has been granted pursuant to §148.4 with respect to such wastes; or
(2) If an exemption from a prohibition has been granted in response to a petition filed under §148.20 to allow injection of restricted wastes with respect to those wastes and wells covered by the exemption; or
(3) If the waste is generated by a conditionally exempt small quantity generator, as defined in §261.5; or
(d) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under this part, or part 268 of this chapter, are not prohibited if the wastes:
(1) Are disposed into a nonhazardous or hazardous injection well as defined under 40 CFR §146.6(a); and
(2) Do not exhibit any prohibited characteristic of hazardous waste identified in 40 CFR part 261, subpart C at the point of injection.

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§ 148.2 Definitions.
Injection interval means that part of the injection zone in which the well is screened, or in which the waste is otherwise directly emplaced. Transmissive fault or fracture is a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.
(b) Effective August 8, 1990, all spent F001–F005 solvent wastes containing less than 1 percent total F001–F005 solvent constituents listed in Table A of this section are prohibited from injection.

(c) Effective August 8, 1990, all spent F002 and F005 wastes containing solvent constituents listed in Table B of this section are prohibited from underground injection at off-site injection facilities.

(d) Effective November 8, 1990, the wastes specified in paragraph (c) of this section are prohibited from underground injection at on-site injection facilities.

(e) The requirements of paragraphs (a) and (b) of this section do not apply:

1) If the wastes meet or are treated to meet the applicable standards specified in subpart D of part 268; or

2) If an exemption from a prohibition has been granted in response to a petition under subpart C of this part; or

3) During the period of extension of the applicable effective date, if an extension has been granted under §148.4 of this part.

### Table A

<table>
<thead>
<tr>
<th>Solvent Constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
</tr>
<tr>
<td>n-Butyl alcohol</td>
</tr>
<tr>
<td>Carbon disulfide</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
</tr>
<tr>
<td>Chlorobenzene</td>
</tr>
<tr>
<td>Cresols and cresylic acid</td>
</tr>
<tr>
<td>Cyclohexanone</td>
</tr>
<tr>
<td>1,2-Dichlorobenzene</td>
</tr>
<tr>
<td>Ethyl acetate</td>
</tr>
<tr>
<td>Ethyl benzene</td>
</tr>
<tr>
<td>Ethyl ether</td>
</tr>
<tr>
<td>Isobutanol</td>
</tr>
<tr>
<td>Methanol</td>
</tr>
<tr>
<td>Methylene chloride</td>
</tr>
<tr>
<td>Methylene chloride (from the pharmaceutic industry)</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
</tr>
<tr>
<td>Methyl isobutyl ketone</td>
</tr>
<tr>
<td>Nitrobenzene</td>
</tr>
<tr>
<td>Pyridine</td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
</tr>
<tr>
<td>Toluene</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
</tr>
<tr>
<td>1,2,2-Trichloro-1,2,2-trifluoroethane</td>
</tr>
<tr>
<td>Trichloroethylene</td>
</tr>
<tr>
<td>Trichlorofluoromethane</td>
</tr>
<tr>
<td>Xylene</td>
</tr>
</tbody>
</table>

### Table B

<table>
<thead>
<tr>
<th>Solvent Constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
</tr>
<tr>
<td>2-Ethoxyethanol</td>
</tr>
<tr>
<td>2-Nitropropane</td>
</tr>
<tr>
<td>1,1,2-Trichloroethane</td>
</tr>
<tr>
<td>Trichlorofluoromethane</td>
</tr>
</tbody>
</table>

§148.11 Waste specific prohibitions—dioxin-containing wastes.

(a) Effective August 8, 1988, the dioxin-containing wastes specified in §261.31 as EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028, and prohibited from underground injection.

(b) The requirements of paragraph (a) of this section do not apply:

1) If the wastes meet or are treated to meet the applicable standards specified in subpart D of part 268; or

2) If an exemption from a prohibition has been granted in response to a petition under subpart C of this part; or

3) During the period of extension of the applicable effective date, if an extension has been granted under §148.4 of this part.

[53 FR 28154, July 26, 1988, as amended at 54 FR 25422, June 14, 1989]

§148.12 Waste specific prohibitions—California list wastes.

(a) Effective August 8, 1988, the hazardous wastes listed in 40 CFR 268.32 containing polychlorinated biphenyls at concentrations greater than or equal to 50 ppm or halogenated organic compounds at concentrations greater than or equal to 10,000 mg/kg are prohibited from underground injection.

(b) Effective August 8, 1990, the following hazardous wastes are prohibited from underground injection:

1) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing free cyanides at concentrations greater than or equal to 1,000 mg/l;

2) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing the following metals (or elements) or compounds of these metals (or elements) at concentrations greater than or equal to those specified below:

   (i) Arsenic and/or compounds (as As) 500 mg/l;

   (ii) Cadmium and/or compounds (as Cd) 100 mg/l;
§ 148.14 Waste specific prohibitions—first third wastes.

(a) Effective June 7, 1989, the wastes specified in 40 CFR 261.31 as EPA Hazardous Waste numbers F006 (nonwastewaters) and the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste numbers K001, K015 (wastewaters), K016 (at concentrations greater than or equal to 1%), K018, K019, K020, K021 (nonwastewaters generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes), K022 (nonwastewaters), K024, K030, K036 (nonwastewaters generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes), K037, K044, K045, non-explosive K046 (nonwastewaters), K047, K048, K050 (nonwastewaters generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes), K061 (nonwastewaters), noncalcium sulfate K069 (nonwastewaters generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes), K086 solvent washes, K087, K099, K101 (all wastewaters and less than 1% total arsenic nonwastewaters), K102 (all wastewaters and less than 1% total arsenic nonwastewaters), and K103 are prohibited from underground injection.

(b) Effective July 8, 1989, the wastes specified in 40 CFR 261.31 as EPA Hazardous Waste numbers F008 and F009 are prohibited from underground injection.

(c) Effective August 8, 1990, the wastes specified in 40 CFR 261.33 as EPA Hazardous Waste Number K036 (wastewaters) and the wastes specified in 40 CFR 261.33 as P030, P039, P041, P063, P071, P094, P097, U221, and U223 are prohibited from underground injection.
Environmental Protection Agency

§ 148.15 Waste specific prohibitions—second third wastes.

(a) Effective June 7, 1989, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste numbers K025 (nonwastewaters generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewaters forms of these wastes) are prohibited from underground injection.

(b) Effective June 8, 1989, the wastes specified in 40 CFR 261.31 as EPA Hazardous Waste numbers F010, F024; the wastes specified in 40 CFR 261.32 as K009 (nonwastewaters), K010, K027, K028, K029 (nonwastewaters), K038, K039, K040, K043, K095 (nonwastewaters), K096 (nonwastewaters), K113, K114, K115, K116; and wastes specified in 40 CFR 261.33 as P029, P040, P043, P044, P062, P074, P085, P098, P104, P106, P111, U028, U058, U107, and U235 are prohibited from underground injection.

(c) Effective July 8, 1989, and continuing until December 8, 1989, the wastes specified in 40 CFR 261.31 as EPA Hazardous Waste numbers F011 and F012 are prohibited from underground injection pursuant to the treatment standards specified in §§268.41 and 268.43 applicable to F007, F008, and F009 wastewaters and nonwastewaters. Effective December 8, 1989, F011 (nonwastewaters) and F012 (nonwastewaters) are prohibited pursuant to the treatment standards specified in §§268.41 and 268.43 applicable to F011 and F012 wastewaters and nonwastewaters.

(d) Effective August 8, 1990, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Number K025 (wastewaters), K029 (wastewaters), K041, K042, K095 (wastewaters), K096 (wastewaters), K097, K098, and K105; and the wastes specified in 40 CFR part 261.33 as P002, P003, P007, P008, P014, P026, P027, P049, P054, P057, P060, P066, P067, P072, P107, P112, P113, P114, U002, U003, U005, U008, U011, U014, U015, U020, U021, U023, U025, U028, U032, U035, U047, U049, U057, U059, U060, U062, U070, U073, U080, U083, U092, U093, U094, U095, U097, U098, U099, U101, U106, U109, U110, U111, U114, U116, U119, U127, U128, U131, U135, U138, U140, U142, U143, U144, U146, U147, U149, U150, U161, U162, U163, U164, U165, U168, U169, U170, U172, U173, U174, U176, U178, U179, U189, U193, U196, U203, U205, U206, U208, U213, U214, U215, U216, U217, U219, U220, U226, U227, U228, U237, U238, U248, and U249 are prohibited from underground injection at off-site injection facilities.

(e) Effective August 8, 1990, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste numbers K049, K050, K051, K052, K062, K071, and K104 are prohibited from underground injection.

(f) Effective November 8, 1990, the wastes specified in paragraph (d) of this section are prohibited from underground injection at on-site injection facilities.

(g) Effective June 7, 1991, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste number K016 (at concentrations less than 1%) are prohibited from underground injection.

(h) Effective June 8, 1991, the wastes specified in 40 CFR 261.31 as EPA Hazardous Waste numbers F007; and the wastes specified in 40 CFR 261.32 as K011 (nonwastewaters) and K013 (nonwastewaters) are prohibited from underground injection.

(i) Effective May 8, 1992, the wastes specified in 40 CFR 261.32 and 261.33 as EPA Hazardous Waste Numbers K011 (wastewaters), K013 (wastewaters), and K014 are prohibited from underground injection.

(j) The requirements of paragraphs (a) through (i) of this section do not apply:

(1) If the wastes meet or are treated to meet the applicable standards specified in subpart D of part 268; or

(2) If an exemption from a prohibition has been granted in response to a petition under subpart C of this part; or

(3) During the period of extension of the applicable effective date, if an extension has been granted under §148.4 of this part.

[54 FR 25423, June 14, 1989, as amended at 54 FR 26647, June 23, 1989; 55 FR 22683, June 1, 1990]
§ 148.16 Waste specific prohibitions—third third wastes.

(a) Effective June 7, 1989, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste numbers K100 (nonwastewaters generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes) are prohibited from underground injection.

(b) Effective June 8, 1989, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste numbers K005 (nonwastewaters), K023, K093, K094; and the wastes specified in 40 CFR 261.33 as P013, P021, P099, P109, P121, U069, U087, U088, U102, and U190 are prohibited from underground injection.

(c) Effective August 8, 1990, the wastes identified in 40 CFR 261.31 as EPA Hazardous Waste Number F039 (nonwastewaters); the wastes identified in 40 CFR 261.22, 261.23, or 261.24 as hazardous based on a characteristic alone, designated as D002 (wastewaters and nonwastewaters), D003 (wastewaters and nonwastewaters), D007 (wastewaters and nonwastewaters), and D009 (wastewaters and nonwastewaters) are prohibited from underground injection. These effective dates do not apply to the wastes listed in 40 CFR 148.12(b) which are prohibited from underground injection on August 8, 1990.

(d) Effective August 8, 1990, mixed radioactive/hazardous waste in 40 CFR 268.10, 268.11, and 268.12, that are mixed radioactive and hazardous wastes, are prohibited from underground injection.

(e) Effective November 8, 1990, the wastes specified in paragraph (c) of this section are prohibited from underground injection at on-site injection facilities. These effective dates do not apply to the wastes listed in 40 CFR 148.12(b) which are prohibited from underground injection on August 8, 1990.

(f) Effective May 8, 1992, the waste identified in 40 CFR 261.31 as EPA Hazardous Waste Number F039 (wastewaters); the wastes identified in 40 CFR 261.22, 261.23, or 261.24 as hazardous based on a characteristic alone, designated as D002 (wastewaters and nonwastewaters), D003 (wastewaters and nonwastewaters), D007 (wastewaters and nonwastewaters), and D009 (wastewaters and nonwastewaters) are prohibited from underground injection. These effective dates do not apply to the wastes listed in 40 CFR 148.12(b) which are prohibited from underground injection on August 8, 1990.

(g) The requirements of paragraphs (a) through (f) of this section do not apply:

(1) If the wastes meet or are treated to meet the applicable standards specified in subpart D of part 268; or

(2) If an exemption has been granted in response to a petition under subpart C of this part; or

(3) During the period of extension of the applicable effective date, if an extension has been granted under §148.4 of this part.
Environmental Protection Agency

§ 148.18 Waste specific prohibitions—newly listed and identified wastes.

(a) Effective August 24, 1998, all newly identified D004–D011 wastes and characteristic mineral processing wastes, except those identified in paragraph (b) of this section, are prohibited from underground injection.

(b) Effective May 26, 2000, characteristic hazardous wastes from titanium dioxide mineral processing, and radioactive wastes mixed with newly identified D004–D011 or mixed with newly identified characteristic mineral processing wastes, are prohibited from underground injection.

(c) Effective August 11, 1997, the wastes specified in 40 CFR part 261 as EPA Hazardous waste numbers F032, F034, F035 are prohibited from underground injection.

(d) Effective May 12, 1999, the wastes specified in 40 CFR part 261 as EPA Hazardous waste numbers K169, K170, K171, and K172 are prohibited from underground injection.

(e) Effective May 20, 2002, the wastes specified in 40 CFR part 261 as EPA Hazardous Waste Numbers K174 and K175 are prohibited from underground injection.

(f) Effective August 23, 2005, the waste specified in 40 CFR part 261 as EPA Hazardous Waste Number K181 is prohibited from underground injection.

§ 148.17 Waste specific prohibitions; newly listed wastes.

(a) Effective November 9, 1992, the wastes specified in 40 CFR part 261 as EPA hazardous waste numbers F037, F038, K107, K108, K109, K110, K111, K112, K117, K118, K123, K124, K125, K126, K131, K136, U328, U333, and U359 are prohibited from underground injection.

(b) Effective December 19, 1994 the wastes specified in 40 CFR 261.32 as EPA Hazardous waste numbers K141, K142, K143, K144, K145, K147, K148, K149, K150, and K151, are prohibited from underground injection.

(c) [Reserved]

(d) Effective June 30, 1995, the wastes specified in 40 CFR part 261 as EPA Hazardous waste numbers K117, K118, K131, and K132 are prohibited from underground injection.

(e) The requirements of paragraphs (a) and (b) of this section do not apply:

(1) If the wastes meet or are treated to meet the applicable standards specified in subpart D of part 268; or

(2) If an exemption from a prohibition has been granted in response to a petition under subpart C of this part; or

(3) During the period of extension of the applicable effective date, if an extension has been granted under §148.4 of this part.

§ 148.18 Waste specific prohibitions—newly listed and identified wastes.

(a) Effective August 24, 1998, all newly identified D004–D011 wastes and characteristic mineral processing wastes, except those identified in paragraph (b) of this section, are prohibited from underground injection.

(b) Effective May 26, 2000, characteristic hazardous wastes from titanium dioxide mineral processing, and radioactive wastes mixed with newly identified D004–D011 or mixed with newly identified characteristic mineral processing wastes, are prohibited from underground injection.

(c) Effective August 11, 1997, the wastes specified in 40 CFR part 261 as EPA Hazardous waste numbers F032, F034, F035 are prohibited from underground injection.

(d) Effective May 12, 1999, the wastes specified in 40 CFR part 261 as EPA Hazardous waste numbers K169, K170, K171, and K172 are prohibited from underground injection.

(e) Effective May 20, 2002, the wastes specified in 40 CFR part 261 as EPA Hazardous Waste Numbers K174 and K175 are prohibited from underground injection.

(f) Effective August 23, 2005, the waste specified in 40 CFR part 261 as EPA Hazardous Waste Number K181 is prohibited from underground injection.
(m) The requirements of paragraphs (a) through (l) of this section do not apply:

(1) If the wastes meet or are treated to meet the applicable standards specified in subpart D of 40 CFR part 268; or

(2) If an exemption from a prohibition has been granted in response to a petition under subpart C of this part; or

(3) During the period of extension of the applicable effective date, if an extension has been granted under §148.4.

Subpart C—Petition Standards and Procedures

§148.20 Petitions to allow injection of a waste prohibited under subpart B.

(a) Any person seeking an exemption from a prohibition under subpart B of this part for the injection of a restricted hazardous waste into an injection well or wells shall submit a petition to the Director demonstrating that, to a reasonable degree of certainty, there will be no migration of hazardous constituents from the injection zone for as long as the waste remains hazardous. This demonstration requires a showing that:

(1) The hydrogeological and geochemical conditions at the sites and the physiochemical nature of the waste stream(s) are such that reliable predictions can be made that:

(i) Fluid movement conditions are such that the injected fluids will not migrate within 10,000 years:

(A) Vertically upward out of the injection zone; or

(B) Laterally within the injection zone to a point of discharge or interface with an Underground Source of Drinking Water (USDW) as defined in 40 CFR part 146; or

(ii) Before the injected fluids migrate out of the injection zone or to a point of discharge or interface with USDW, the fluid will no longer be hazardous because of attenuation, transformation, or immobilization of hazardous constituents within the injection zone by hydrolysis, chemical interactions or other means; and

(2) For each well the petition has:

(i) Demonstrated that the injection well’s area of review complies with the substantive requirements of §146.63;

(ii) Located, identified, and ascertained the condition of all wells within the injection well’s area of review (as specified in §146.63) that penetrate the injection zone or the confining zone by use of a protocol acceptable to the Director that meets the substantive requirements of §146.64;

(iii) Submitted a corrective action plan that meets the substantive requirements of §146.64, the implementation of which shall become a condition of petition approval; and

(iv) Submitted the results of pressure and radioactive tracer tests performed within one year prior to submission of the petition demonstrating the mechanical integrity of the well’s long string casing, injection tube, annular seal, and bottom hole cement. In cases where the petition has not been approved or denied within one year after the initial demonstration of mechanical integrity, the Director may require the owner or operator to perform the tests again and submit the results of the new tests.

NOTE: The requirements of §148.20(a)(2) need not be incorporated in a permit at the time of petition approval.

(b) A demonstration under §148.20(a)(1)(i) shall identify the strata within the injection zone which will confine fluid movement above the injection interval and include a showing that this strata is free of known transmissive faults or fractures and that there is a confining zone above the injection zone.

(c) A demonstration under §148.20(a)(1)(ii) shall identify the strata within the injection zone where waste transformation will be accomplished and include a showing that this strata is free of known transmissive faults or fractures and that there is a confining zone above the injection zone.

(d) A demonstration may include a showing that:

(1) Treatment methods, the implementation of which shall become a
condition of petition approval, will be utilized that reduce the toxicity or mobility of the wastes; or
(2) A monitoring plan, the implementation of which shall become a condition of petition approval, will be utilized to enhance confidence in one or more aspects of the demonstration.

(e) Any person who has been granted an exemption pursuant to this section may submit a petition for reissuance of the exemption to include an additional restricted waste or wastes or to modify any conditions placed on the exemption by the Director. The Director shall reissue the petition if the petitioner complies with the requirements of paragraphs (a), (b) and (c) of this section.

(f) Any person who has been granted an exemption pursuant to this section may submit a petition to modify an exemption to include an additional (hazardous) waste or wastes. The Director may grant the modification if he determines, to a reasonable degree of certainty, that the additional waste or wastes will behave hydraulically and chemically in a manner similar to previously included wastes and that it will not interfere with the containment capability of the injection zone.

§ 148.21 Information to be submitted in support of petitions.

(a) Information submitted in support of § 148.20 must meet the following criteria:
(1) All waste analysis and any new testing performed by the petitioner shall be accurate and reproducible and performed in accordance with quality assurance standards;
(2) Estimation techniques shall be appropriate, and EPA-certified test protocols shall be used where available and appropriate;
(3) Predictive models shall have been verified and validated, shall be appropriate for the specific site, waste streams, and injection conditions of the operation, and shall be calibrated for existing sites where sufficient data are available;
(4) An approved quality assurance and quality control plan shall address all aspects of the demonstration;
(5) Reasonably conservative values shall be used whenever values taken from the literature or estimated on the basis of known information are used instead of site-specific measurements; and
(6) An analysis shall be performed to identify and assess aspects of the demonstration that contribute significantly to uncertainty. The petitioner shall conduct a sensitivity analysis to determine the effect that significant uncertainty may contribute to the demonstration. The demonstration shall then be based on conservative assumptions identified in the analysis.

(b) Any petitioner under § 148.20(a)(1)(i) shall provide sufficient site-specific information to support the demonstration, such as:
(1) Thickness, porosity, permeability and extent of the various strata in the injection zone;
(2) Thickness, porosity, permeability, extent, and continuity of the confining zone;
(3) Hydraulic gradient in the injection zone;
(4) Hydrostatic pressure in the injection zone; and
(5) Geochemical conditions of the site.

(c) In addition to the information in § 148.21(b), any petitioner under § 148.20(a)(1)(ii) shall provide sufficient waste-specific information to ensure reasonably reliant predictions about the waste transformation. The petitioner shall provide the information necessary to support the demonstration, such as:
(1) Description of the chemical processes or other means that will lead to waste transformation; and
(2) Results of laboratory experiments verifying the waste transformation.

§ 148.22 Requirements for petition submission, review and approval or denial.

(a) Any petition submitted to the Director pursuant to § 148.20(a) shall include the following components:
(1) An identification of the specific waste or wastes and the specific injection well or wells for which the demonstration will be made;
(2) A waste analysis to describe fully the chemical and physical characteristics of the subject wastes;
§ 148.23 Review of exemptions granted pursuant to a petition.

(a) When considering whether to reissue a permit for the operation of a Class I hazardous waste injection well, the Director shall review any petition filed pursuant to §148.20 and require a new demonstration if information shows that the basis for granting the exemption may no longer be valid.

(b) Whenever the Director determines that the basis for approval of a petition may no longer be valid, the Director shall require a new demonstration in accordance with §148.20.

§ 148.24 Termination of approved petition.

(a) The Director may terminate an exemption granted under §148.20 for the following causes:

1. Noncompliance by the petitioner with any condition of the exemption;
2. The petitioner's failure in the petition or during the review and approval to disclose fully all relevant facts, or the petitioner's misrepresentation of any relevant facts at any time; or
3. A determination that new information shows that the basis for approval of the petition is no longer valid.

(b) The Director shall terminate an exemption granted under §148.20 for the following causes:

1. The petitioner's willful withholding during the review and approval of the petition of facts directly and materially relevant to the Director's decision on the petition;
2. A determination that there has been migration from the injection zone or the well that is not in accordance with the terms of the exemption, except that the Director may at his discretion decide not to terminate where:
   i. The migration resulted from a mechanical failure of the well that can be corrected promptly through a repair to the injection well itself or from an undetected well or conduit that can be plugged promptly; and
   ii. The requirements of §146.67(i) are satisfied.
3. The Director shall follow the procedures in §124.5 in terminating any exemption under this section.

PART 149—SOLE SOURCE AQUIFERS

Subpart A—Criteria for Identifying Critical Aquifer Protection Areas

Sec. 149.1 Purpose.
149.2 Definitions.
149.3 Critical Aquifer Protection Areas.

Subpart B—Review of Projects Affecting the Edwards Underground Reservoir, A Designated Sole Source Aquifer in the San Antonio, Texas Area

149.100 Applicability.
149.101 Definitions.