

## Environmental Protection Agency

## § 148.20

EPA Hazardous Waste Numbers K169, K170, K171, and K172 are prohibited from underground injection.

(j) Effective May 8, 2001, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Numbers K174 and K175 are prohibited from underground injection.

(k) Effective May 20, 2002, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Numbers K176, K177, and K178 are prohibited from underground injection.

(l) Effective August 23, 2005, the waste specified in 40 CFR 261.32 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.

[61 FR 15662, Apr. 8, 1996, as amended at 62 FR 26018, May 12, 1997; 63 FR 24624, May 4, 1998; 63 FR 28636, May 26, 1998; 63 FR 35149, June 29, 1998; 63 FR 42184, Aug. 6, 1998; 65 FR 14474, Mar. 17, 2000; 65 FR 36366, June 8, 2000; 65 FR 67126, Nov. 8, 2000; 66 FR 58297, Nov. 20, 2001; 70 FR 9174, Feb. 24, 2005]

### 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

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that this strata is free of known transmissive faults of 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 reliable 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