

(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.