

ILLINOIS POLLUTION CONTROL BOARD
October 5, 1989

IN THE MATTER OF:)
)
UIC UPDATE, USEPA REGULATIONS) R89-2
(7-1-88 THROUGH 12-31-88))

PROPOSAL FOR PUBLIC COMMENT

PROPOSED ORDER OF THE BOARD (By J. Anderson):

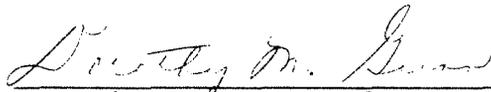
Pursuant to Sections 13(c) and 22.4(a) of the Environmental Protection Act (Act), the Board is amending the Underground Injection Control (UIC) regulations.

Both Sections provide for quick adoption of regulations which are "identical in substance" to federal regulations and that Title VII of the Act and Section 5 of the Administrative Procedure Act (APA) shall not apply. Because this rulemaking is not subject to Section 5 of the APA, it is not subject to first notice or to second notice review by the Joint Committee on Administrative Rules (JCAR). The federal UIC regulations are found at 40 CFR 144, 146 and 148. This rulemaking updates UIC rules to correspond with major federal amendments more fully outline in the accompanying Proposed Opinion.

This Order is supported by a Proposed Opinion adopted on the same day. The Board will receive public comment on the proposal for a period of 45 days following publication in the Illinois Register. Because of its length, the text of the proposal will not be published in the Environmental Register or appear in the Opinion volumes. The complete text of the proposed rules follows.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Proposed Order was adopted on the 5th day of October, 1989, by a vote of 6-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER b: PERMITS

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RCRA AND UIC PERMIT PROGRAMS

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AUTHORITY: Implementing Section 13 and 22.4 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1987, ch. 111 1/2, pars. 1013, 1022.4 and 1027).

SOURCE: Adopted in R81-32, 47 PCB 93, at 6 Ill. Reg. 12479, effective as noted in 35 Ill. Adm. Code 700.106; amended in R82-19 at at, 53 PCB 131, 7 Ill. Reg. 14352, effective as noted in 35 Ill. Adm. Code 700.106; amended in R84-9 at 9 Ill. Reg. 11926, effective July 24, 1985; amended in R85-23 at 10 Ill. Reg. 13274, effective July 29, 1986; amended in R86-1 at 10 Ill. Reg. 14083, effective August 12, 1986; amended in R86-28 at 11 Ill. Reg. 6131, effective March 24, 1987; amended in R87-5 at 11 Ill. Reg. 19376, effective November 12, 1987; amended in R87-26 at 12 Ill. Reg. 2579, effective January 15, 1988; amended in R87-29 at 12 Ill. Reg. 6673, effective March 28, 1988; amended in R87-39 at 12 Ill. Reg. 13083, effective July 29, 1988; amended in R89-1 at 13 Ill. Reg. , effective ; amended in R89-2 at 13 Ill. Reg. , effective

SUBPART C: PERMIT CONDITIONS

Section 702.160 Establishing Permit Conditions

- a) In addition to conditions required in permits for both programs (Sections 702.140 through 702.152), the Agency shall establish conditions, as required on a case-by-case basis, in RCRA and UIC permits under Section 702.150 (monitoring and records), Section 702.161 (duration of permits), Section 702.162 (schedules of compliance), Section 702.163 (alternate schedules of compliance) and Section 702.164 (Recording and Reporting). For UIC only, permits for owners and operators of hazardous waste injection wells must include conditions meeting the requirements of 35 Ill. Adm. Code 704.201 through 704.203 (requirements for wells injecting hazardous waste), 704.189 and 704.191, and 35 Ill. Adm. Code 730.Subpart G. Permits for other wells must contain the requirements set forth in 35 Ill. Adm. Code 704.Subpart E when applicable.

BOARD NOTE: Derived from 40 CFR 144.52(a) (198-7)-8), as amended at 53 Fed. Reg. 28147, July 26, 1988 and 270.32(a) (1988).

b) Additional conditions.

- 1) In addition to conditions required in all permits for a particular program (35 Ill. Adm. Code 703.241 et seq. for RCRA and 35 Ill. Adm. Code 704.181 et seq. for UIC), the Agency shall establish conditions in permits for the individual programs, as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the appropriate Act and regulations.

BOARD NOTE: Derived from 40 CFR 144.52(b) and 270.32(b) (1988).

- 2) An applicable requirement is a statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. 35 Ill. Adm. Code 705.184 (reopening of comment period) provides a means for reopening permit proceedings at the discretion of the Agency where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable. An applicable requirement is also any requirement which takes effect prior to the modification of a permit, to the extent allowed in 35 Ill. Adm. Code 705.201.

BOARD NOTE: Derived from 40 CFR 144.52(b) and 270.32(c) (1988).

- 3) New or reissued permits, and to the extent allowed under 35 Ill. Adm. Code 705.201 modified permits, shall incorporate each of the applicable requirements referenced in 35 Ill. Adm. Code 703.241 et seq. (RCRA) and 35 Ill. Adm. Code 704.182 through 704.191 (UIC).

BOARD NOTE: Derived from 40 CFR 144.52(b) and 270.32(d) (1988).

- c) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

BOARD NOTE: Derived from 40 CFR 144.51 and 270.32(e) (1988).

(Source: Amended at 13 Ill. Reg. ,
effective)

SUBPART D: ISSUED PERMITS

Section 702.181 Effect of a Permit

- a) The existence of a RCRA or UIC permit shall not constitute a defense to a violation of the Environmental Protection Act or this Subtitle, except for development, modification or operation without a permit. However, a permit may be modified, reissued or revoked during its term for cause as set forth in 35 Ill. Adm. Code 703.270 through 703.273 (RCRA) and 35 Ill. Adm. Code 704.261 through 704.263 (UIC) and Section 702.186- (RERA) and Sections 702.183 through 702.186 (UIC)-.
- b) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.
- c) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations, except as noted in subsection (a).

BOARD NOTE: Derived from 144.35 (1988) and 40 CFR 270.4 (1988), as amended at 53 Fed. Reg. 37934, September 28, 1988.

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 702.182 Transfer

-This Section applies only to UIC permits. -For RCRA, see 35 Ill. Adm. Code 703.260. For UIC, see 35 Ill. Adm. Code 704.260.

- a) ~~Transfer by modification:~~ Except as provided in subsection (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified (under Section 702.183 through 702.185) or a minor modification made (under Section 702.187(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the appropriate Act. The new owner or operator to whom the permit is transferred shall comply with all the terms and conditions specified in such permit.
- b) ~~Automatic transfers:~~ As an alternative to transfers under subsection (a), any UIC permit for a well not injecting hazardous waste may be automatically transferred to a new permittee if:
 - 1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date in subsection (b)(2);

- 2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility; coverage and liability between them and the notice demonstrates that the financial responsibility requirements of 35 Ill. Adm. Code 704.189 will be met by the new permittee and that the new permittee agrees to comply with all the terms and conditions specified in the permit to be transferred under subsection (b); and
- 3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify the permit. A modification under this subsection may also be a minor modification under Section 702.187. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in subsection (b)(2).

BOARD NOTE: Derived from 40 CFR 144.38 (1987).-

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 702.183 Modification

-This Section applies only to HIE permits. -For RCRA, see 35 Ill. Adm. Code 703.270. For UIC, see 35 Ill. Adm. Code 704.261.-

When the Agency receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (See Sections 702.140 through 702.152), receives a request for modification or conducts a review of the permit file) it may determine whether or not one or more of the causes listed in Sections 702.184 and 702.185 for modification exist. If cause exists, the Agency may modify the permit accordingly, subject to the limitations of Section 702.185 and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If cause does not exist under Section 702.183 through 702.185 or Section 702.187 the Agency shall not modify the permit. If a permit modification satisfies the criteria in Section 702.187 for "minor modifications" the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in 35 Ill. Adm. Code 705 followed.

BOARD NOTE: Derived from 40 CFR 144.39 (1987).-

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 702.184 Causes for Modification

-This Section applies only to HIE permits. -For RCRA, see 35

Ill. Adm. Code 703.271 and 703.272. For UIC, see 35 Ill. Adm. Code 704.262.

- a) The following are cause for modification, but not reissuance, of permits; the following may be cause for reissuance as well as modification when the permittee requests or agrees:
 - 1) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.
 - 2) Information. The Agency has received information. Permits other than for UIC Class III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits this cause shall include any information indicating that cumulative effects on the environment are unacceptable.
 - 3) New statutory requirements or regulations. The standards or regulations on which the permit was based have been changed by statute, through promulgation of new or amended standards or regulations or by judicial decision after the permit was issued. Permits other than for UIC Class III wells may be modified during their terms for this cause only as follows:
 - A) The Agency may modify the permit when standards or regulations on which the permit was based have been changed by statute or amended standards or regulations.
 - B) The permittee may request modification when:
 - i) The permit condition requested to be modified was based on a promulgated 35 Ill. Adm. Code 730 (UIC) regulation; and
 - ii) The Board has revised, withdrawn or modified that portion of the regulation on which the permit condition was based; and
 - iii) A permittee requests modification in accordance with 35 Ill. Adm. Code 705.128 within ninety (90) days after Illinois

Register notice of the rulemaking on which the request is based.

e) For judicial decisions, a court of competent jurisdiction has remanded and stayed Board promulgated regulations, if the remand and stay concern that portion of the regulations on which the permit condition was based or if a request is filed by the permittee in accordance with 35 Ill. Adm. Code 705.128 within ninety (90) days of judicial remand.

4) Compliance schedules. The Agency determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

b) The following are causes to modify or, alternatively, reissue a permit: The Agency has received notification (as required in the permit, see Section 702.152(c)) of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer (Section 702.182(b)), but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

BOARD NOTE: Derived from 40 CFR 144.39 (1988).--

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 702.185 Facility Siting

-This Section applies only to HIC permits. -For RCRA, see 35 Ill. Adm. Code 703.273. For UIC, see 35 Ill. Adm. Code 704.263.-

Suitability of the facility location will not be considered at the time of permit modification unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance or unless required under the Environmental Protection Act. However, certain modifications may require site location suitability approval pursuant to Section 39.2 of the Environmental Protection Act.

BOARD NOTE: Derived from 40 CFR 144.39(c) (1988).--

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 702.187 Minor Modifications

-This Section applies only to UIC permits. -For RCRA, see 35 Ill. Adm. Code 703.280. For UIC, see 35 Ill. Adm. Code 704.264.-

Upon the consent of the permittee, the Agency may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this Section, without following the procedures of 35 Ill. Adm. Code 705. Any permit modification not processed as a minor modification under this Section must be made for cause and with a 35 Ill. Adm. Code 705 draft permit and public notice as required in Sections 702.183 through 702.185. Minor modifications may only:

- a) Correct typographical errors;
- b) Require more frequent monitoring or reporting by the permittee;
- c) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or
- d) Allow for a change in ownership or operational control of a facility where the Agency determines that no other change in the permit is necessary, provided: that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees has been submitted to the Agency.
- f) For UIC only:
 - 1) Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the Agency, would not interfere with the operation of the facility or its ability to meet conditions described in the permit and would not change its classification.
 - 2) Change construction requirements approved by the Agency pursuant to 35 Ill. Adm. Code 704.182 (establishing UIC permit conditions), provided that any such alteration shall comply with the requirements of this Part and 35 Ill. Adm. Code 704 and 730.
 - 3) Amend a plugging and abandonment plan which has been updated under 35 Ill. Adm. Code 704.181(e).

BOARD NOTE: Derived from 40 CFR 144.41 (1987).-

(Source: Amended at 13 Ill. Reg. ,
effective)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER b: PERMITS

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UIC PERMIT PROGRAM

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<u>704.264</u>	<u>Minor Modifications</u>

AUTHORITY: Implementing Sections 13 and 22.4 and authorized by

Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1987, ch. 111 1/2, pars. 1013, 1022.4 and 1027, as amended by P.A. 85-1048, effective January 1, 1989).

SOURCE: Adopted in R81-32, at 47 PCB 95, at 6 Ill. Reg. 12479, effective as noted in 35 Ill. Adm. Code 700.106; amended in R82-19, at 7 Ill. Reg. 14402, effective as noted in 35 Ill. Adm. Code 700.106; amended in R83-39, at 55 PCB 319, at 7 Ill. Reg. 17338, effective December 19, 1983; amended in R85-23 at 10 Ill. Reg. 13290, effective July 29, 1986; amended in R87-29 at 12 Ill. Reg. 6687, effective March 28, 1988; amended in R88-2 at 12 Ill. Reg. 13700, effective August 16, 1988; amended in R88-17 at 13 Ill. Reg. 478, effective December 30, 1988; amended in R89-2 at Ill. Reg. , effective

SUBPART D: APPLICATION FOR PERMIT

Section 704.161 Application for Permit; Authorization by Permit

- a) Permit application. Except for owners or operators authorized by rule, all underground injections are prohibited unless authorized by permit. Persons currently authorized by rule must still apply for a permit as specified in subsection (b) unless the authorization was for a Class V well under Section 704.146. Rules authorizing well injections for which permit applications have been submitted shall lapse for a particular well injection or project upon the effective date of the permit or permit denial for that well injection or project. Procedures for application issuance and administration of emergency permits are found exclusively in Section 704.163. A RCRA permit applying the standards of 35 Ill. Adm. Code 724.Subpart X will constitute a UIC permit for hazardous waste injection wells for which the technical standards in 35 Ill. Adm. Code 724 are not generally appropriate.

BOARD NOTE: Derived from 40 CFR 144.31(a) (~~1987~~) (1988), as amended at 52 Fed. Reg. 46963, December 10, 1987.

- b) Time to apply. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the Agency as follows:
- 1) For existing wells:
 - A) Within 180 days after the Agency notifies such person that an application is required; or
 - B) If the waste being injected into the well is a hazardous waste accompanied by a manifest or

delivery document, by August 1, 1984; or

- C) Except as otherwise provided in subsections (b)(1)(A) and (b)(1)(B), by February 1, 1986.
- 2) For new injection wells, except new wells in projects authorized under Section 704.141 or covered by an existing area permit under Section 704.162(c), a reasonable time before construction is expected to begin.

BOARD NOTE: Derived from 40 CFR 144.31(c) ~~(1987)~~(1988).

- c) Contents of UIC application. The applicant shall demonstrate that the underground injection will not endanger drinking water sources. The form and content of the UIC permit application may be prescribed by the Agency including the materials required by 35 Ill. Adm. Code 702.123.
- d) Information requirements for Class I hazardous waste injection wells.
 - 1) The following information is required for each active Class I hazardous waste injection well at a facility seeking a UIC permit:
 - A) Dates well was operated.
 - B) Specification of all wastes which have been injected into the well, if available.
 - 2) The owner or operator of any facility containing one or more active hazardous waste injection wells must submit all available information pertaining to any release of hazardous waste or constituents from any active hazardous waste injection well at the facility.
 - 3) The owner or operator of any facility containing one or more active Class I hazardous waste injection wells must conduct such preliminary site investigations as are necessary to determine whether a release is occurring, has occurred or is likely to have occurred.

BOARD NOTE: Derived from 40 CFR 144.31(g) ~~(1987)~~(1988).

- e) In addition to the materials required by 35 Ill. Adm. Code 702.123, the applicant shall identify and submit on a list with the permit application the names and addresses for all owners of record of land within one-

quarter mile (401 meters) of the facility boundary. This requirement may be waived by the Agency where the site is located in a populous area such that the requirement would be impracticable.

BOARD NOTE: Derived from 40 CFR 144.31(e)(9) ~~(1987)~~ (1988).

SUBPART E: PERMIT CONDITIONS

Section 704.181 Additional Conditions

The following conditions in addition to those set forth in 35 Ill. Adm. Code 702.140 through 702.152 apply to all UIC permits and shall be incorporated into all permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit.

- a) In addition to 35 Ill. Adm. Code 702.141 (duty to comply): the permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in a temporary emergency permit under Section 704.163.

BOARD NOTE: Derived from 40 CFR 144.51(a) ~~(1987)~~ (1988).

- b) In addition to 35 Ill. Adm. Code 702.150(b) (monitoring and records): the permittee shall retain records concerning the nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures specified under Section 704.188 or under 35 Ill. Adm. Code 730.Subpart G, as appropriate. The owner or operator shall continue to retain the records after the three year retention period unless the owner or operator delivers the records to the Agency or obtains written approval from the Agency to discard the records.

BOARD NOTE: Derived from 40 CFR 144.51(j)(2)(ii) (1988), as amended at 53 Fed. Reg. 28147, July 26, 1988.

- c) In addition to 35 Ill. Adm. Code 702.152(a) (notice of planned changes): except for all new wells authorized by an area permit under Section 704.162(c), a new injection well may not commence injection until construction is complete, and
 - 1) The permittee has submitted notice of completion of construction to the Agency; and
 - 2) Inspection Review
 - A) The Agency has inspected or otherwise reviewed

the new injection well and finds it is in compliance with the conditions of the permit; or

- B) The permittee has not received notice from the Agency of its intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in subsection (c)(1), in which case prior inspection or review is waived and the permittee may commence injection. The Agency shall include in its notice a reasonable time period in which it will inspect the well.

BOARD NOTE: Derived from 40 CFR 144.51(m) ~~(1987)~~ (1988).

d) Reporting Noncompliance

- 1) Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment, including:
 - A) Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW.
 - B) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.
- 2) Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance of the noncompliance.

BOARD NOTE: Derived from 40 CFR 144.51(1)(6) ~~(1987)~~ (1988).

- e) The permittee shall notify the Agency at such times as the permit requires before conversion or abandonment of the well or, in the case of area permits, before closure of the project.

BOARD NOTE: Derived from 40 CFR 144.51(n) ~~(1987)~~ (1988).

- f) Plugging and abandonment report. Within 60 days after plugging a well or at the time of the next quarterly report (whichever is less) the owner or operator shall submit a report to the Agency. If the quarterly report is due less than 15 days before completion of plugging, then the report shall be submitted within 60 days. The report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:
- 1) A statement that the well was plugged in accordance with the plan previously submitted to the Agency;
 - 2) Where actual plugging differed from the plan previously submitted, an updated version of the plan on the form supplied by the Agency specifying the differences.

BOARD NOTE: Derived from 40 CFR 144.51(o) ~~(1987)~~ (1988).

- g) Mechanical integrity demonstration. The Agency by written notice may require the owner or operator to comply with a schedule describing when mechanical integrity demonstrations must be made.

BOARD NOTE: Derived from 40 CFR 144.51(p) ~~(1987)~~ (1988).

(Source: Amended at 13 Ill. Reg. ,
effective)

SUBPART H: ISSUED PERMITS

Section 704.260 Transfer

- a) Transfer by modification. Except as provided in subsection (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified (under Sections 704.161 through 704.164) to identify the new permittee and incorporate such other requirements as may be necessary under the appropriate Act. The new owner or operator to whom the permit is transferred shall comply with all the terms and conditions specified in such permit.
- b) Automatic transfers. As an alternative to transfers under subsection (a), any UIC permit for a well not injecting hazardous waste may be automatically transferred to a new permittee if:
- 1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date in

subsection (b)(2);

- 2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them and the notice demonstrates that the financial responsibility requirements of Section 704.189 will be met by the new permittee and that the new permittee agrees to comply with all the terms and conditions specified in the permit to be transferred under subsection (b); and
- 3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify the permit. A modification under this subsection may also be a minor modification under Section 704.264. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in subsection (b)(2).

BOARD NOTE: Formerly codified as 35 Ill. Adm. Code 702.182. Derived from 40 CFR 144.39 (1988).

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 704.261 Modification

When the Agency receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (See 35 Ill. Adm. Code 702.140 through 702.152), receives a request for modification or conducts a review of the permit file), it may determine whether or not one or more of the causes listed in Sections 704.262 and 704.263 for modification exist. If cause exists, the Agency may modify the permit accordingly, subject to the limitations of Sec. 704.263 and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If cause does not exist under Sections 704.261 through 704.264, the Agency shall not modify the permit. If a permit modification satisfies the criteria in Sec. 704.264 for "minor modifications" the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in 35 Ill. Adm. Code 705 followed.

BOARD NOTE: Formerly codified as 35 Ill. Adm. Code 702.183.
Derived from 40 CFR 122.15.

Section 704.262 Causes for Modification

- a) The following are causes for modification of permits. For Class I hazardous waste injection wells or Class III wells, the following may be causes for reissuance and

modification. For all other wells the following may be cause for reissuance as well as modification when the permittee requests or agrees:

- 1) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.
- 2) Information. Permits other than for UIC Class III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits this cause shall include any information indicating that cumulative effects on the environment are unacceptable.
- 3) New statutory requirements or regulations. The standards or regulations on which the permit was based have been changed by statute, through promulgation of new or amended standards or regulations or by judicial decision after the permit was issued. Permits other than for UIC Class I hazardous wells or Class III wells may be modified during their terms for this cause only as follows:
 - A) The Agency may modify the permit when standards or regulations on which the permit was based have been changed by statute or amended standards or regulations.
 - B) The permittee may request modification when:
 - i) The permit condition requested to be modified was based on a promulgated 35 Ill. Adm. Code 730 regulation; and
 - ii) The Board has revised, withdrawn or modified that portion of the regulation on which the permit condition was based; and
 - iii) A permittee requests modification in accordance with 35 Ill. Adm. Code 705.128 within ninety (90) days after Illinois Register notice of the rulemaking on which the request is based.

C) For judicial decisions, a court of competent jurisdiction has remanded and stayed Board promulgated regulations, if the remand and stay concern that portion of the regulations on which the permit condition was based or if a request is filed by the permittee in accordance with 35 Ill. Adm. Code 705.128 within ninety (90) days of judicial remand.

4) Compliance schedules. The Agency determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

b) The following are causes to modify or, alternatively, reissue a permit:

1) The Agency has received notification (as required in the permit, see Section 702.152(c)) of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer (Section 702.182(b)), but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

2) A determination that the waste being injected is a hazardous waste as defined in 35 Ill. Adm. Code 721.103 either because the definition has been revised, or because a previous determination has been changed.

BOARD NOTE: Formerly codified as 35 Ill. Adm. Code 702.184. Derived from 40 CFR 144.39, as amended at 53 Fed. Reg. 28147, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 704.263 Well Siting

Suitability of the well location will not be considered at the time of permit modification unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance or unless required under the Environmental Protection Act. However, certain modifications may require site location suitability approval pursuant to Section 39.2 of the Environmental Protection Act.

BOARD NOTE: Formerly codified as 35 Ill. Adm. Code 702.185. Derived from 40 CFR 144.39 (1988).

(Source: Added at 13 Ill. Reg. ,
effective)

Section 704.264 Minor Modifications

Upon the consent of the permittee, the Agency may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this Section, without following the procedures of 35 Ill. Adm. Code 705. Any permit modification not processed as a minor modification under this Section must be made for cause and with a 35 Ill. Adm. Code 705 draft permit and public notice as required in Sections 704.261 through 704.263. Minor modifications may only:

- a) Correct typographical errors;
- b) Require more frequent monitoring or reporting by the permittee;
- c) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or
- d) Allow for a change in ownership or operational control of a facility where the Agency determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees has been submitted to the Agency.
- e) Limited Changes:
 - 1) Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the Agency, would not interfere with the operation of the facility or its ability to meet conditions described in the permit and would not change its classification.
 - 2) Change construction requirements approved by the Agency pursuant to 35 Ill. Adm. Code 704.182 (establishing UIC permit conditions), provided that any such alteration shall comply with the requirements of this Part and 35 Ill. Adm. Code 704 and 730.
 - 3) Amend a plugging and abandonment plan which has been updated under 35 Ill. Adm. Code 704.181(e).

BOARD NOTE: Derived from 40 CFR 144.41 (1988)

(Source: Added at 13 Ill. Reg. ,
effective)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER b: PERMITS

PART 705
PROCEDURES FOR PERMIT ISSUANCE

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705.101 Scope and Applicability
705.102 Definitions
705.103 Computation of Time

SUBPART B: PERMIT APPLICATIONS

Section
705.121 Permit Application
705.122 Completeness
705.123 Incomplete Applications
705.124 Site Visit
705.125 Effective Date
705.126 Decision Schedule
705.127 Consolidation of Permit Processing
705.128 Modification or Revocation of Permits

SUBPART C: APPLICATION REVIEW

Section
705.141 Draft Permits
705.142 Statement of Basis
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705.144 Administrative Record for Draft Permits or Notices of
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SUBPART D: PUBLIC NOTICE

Section
705.161 When Public Notice Must Be Given
705.162 Timing of Public Notice
705.163 Methods of Public Notice
705.164 Contents of Public Notice
705.165 Distribution of Other Materials

SUBPART E: PUBLIC COMMENT

Section
705.181 Public Comments and Requests for Public Hearings
705.182 Public Hearings
705.183 Obligation to Raise Issues and Provide Information
705.184 Reopening of Public Comment Period

SUBPART F: PERMIT ISSUANCE

Section
705.201 Final Permit Decision
705.202 Stays In General
705.203 Stays for New Applications
705.204 Stays for Reapplications and Modifications

- 705.205 Stays Following Interim Status
- 705.210 Response to Comments
- 705.211 Administrative Record for Final Permits or Letters of Denial
- 705.212 Appeal

- Appendix A Procedures for Permit Issuance
- Appendix B Modification Process
- Appendix C Application Process
- Appendix D Application Review Process
- Appendix E Public Comment Process
- Appendix F Permit Issuance or Denial

AUTHORITY: Implementing Section 13 and 22.4 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1987, ch. 111 $\frac{1}{2}$, pars. 1013, 1022.4 and 1027, as amended by P.A. 85-1048, effective January 1, 1989).

SOURCE: 6 Ill. Reg. 12,479, effective as provided in 35 Ill. Adm. Code 700.106; amended at 7 Ill. Reg. 14352, effective as provided in 35 Ill. Adm. Code 700.106; amended in R84-9, at 9 Ill. Reg. 11894, effective July 24, 1985; amended in R89-2 at 13 Ill. Reg. , effective

SUBPART B: PERMIT APPLICATIONS

Section 705.128 Modification or Revocation of Permits

- a) Permits may be modified either at the request of any interested person (including the permittee) or upon the Agency's initiative. However, permits may only be modified for the reasons specified in 35 Ill. Adm. Code ~~702-183704.261~~ through ~~702-185704.263~~. All requests shall be in writing addressed to the Agency (Division of Land Pollution Control) and shall contain facts or reasons supporting the request.
- b) If the Agency decides the request is not justified, it shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification are not subject to public notice, comment or hearings. Denial of a request to modify may be appealed to the Board pursuant to 35 Ill. Adm. Code 105.
- c) Agency Modification Procedures
 - 1) If the Agency tentatively decides to initiate steps to modify a permit under this Section and 35 Ill. Adm. Code ~~702-183704.261~~ through ~~702-185704.263~~ it shall, after giving public notice as though an application had been received (Section 705.161(a)(1)), prepare a draft permit under Section 705.141 incorporating the proposed

changes. The Agency may request additional information and may require the submission of an updated permit application. For reissued permits, the Agency shall require the submission of a new application.

- 2) In a permit modification proceeding under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. During any modification proceeding, including appeals if any, the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.
- 3) "Minor modifications" as defined in 35 Ill. Adm. Code ~~702.187~~704.264 and "Class 1 and 2 modifications," as defined in 35 Ill. Adm. Code 703.281 and 703.282, are not subject to the requirements of this section. If the Agency makes a minor modification, the modified permit must be accompanied by a letter stating the reasons for the minor modification.
- d) To the extent that the Agency has authority to terminate, revoke, or revoke and reissue permits, if it decides to do so, it must prepare a draft permit or notice of intent to deny in accordance with Section 705.141.
- e) The Agency or any person may seek the revocation of a permit in accordance with Title VIII of the Illinois Environmental Protection Act and in accordance with 35 Ill. Adm. Code 103. Revocation may be sought only for those reasons specified in 35 Ill. Adm. Code ~~702.186(a)(1)~~ through ~~702.186(a)(4)~~(d).

BOARD NOTE: Derived from 40 CFR 124.5 (1987) (1988), amended at 53 Fed. Reg. 37934, September 26, 1988.

(Source: Amended at 13 Ill. Reg. ,
effective)

SUBPART D: PUBLIC NOTICE

Section 705.163 Methods of Public Notice

Public notice of activities described in Section 705.161(a) shall be given by the following methods:

- a) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits):

- 1) The applicant.
- 2) Any other agency or entity which the Agency knows is required by state or federal law to review or approve issuance of a RCRA or UIC permit for the same facility or activity (including the U.S. Environmental Protection Agency, other Federal and State agencies with jurisdiction over waterways, wildlife or other natural resources, and other appropriate government authorities, including other affected States and units of local government).
- 3) Federal and State agencies with jurisdiction over fish, shellfish and wildlife resources and over costal zone management plans, the Advisory Council on Historical Preservation, State Historic Preservation Officers, and other appropriate government authorities, including any affected States;
- 4) Persons on a mailing list developed by:
 - A) Including those who request in writing to be on the list;
 - B) Including participants in past permit proceedings in that area; and
 - C) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in governmental publications. The Agency may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Agency may delete from the list the name of any person who fails to respond to such a request.
- 5) For RCRA permits only:
 - A) To any unit of local government having jurisdiction over the area where the facility is proposed to be located; and
 - B) To each State Agency having any authority under State law with respect to the construction or operation of such facility.
- 6) For Class I injection well UIC permits only: to the Illinois Department of Mines and Minerals.
- 7) Any other person or entity which the Agency has reason to believe would be particularly interested

in or affected by the proposed action.

b) Publication of notice:

- 1) For major UIC permits, publication of a notice in a daily or weekly newspaper of general circulation within the area affected by the facility or activity.
- 2) For RCRA permits, publication of a notice in a daily or weekly major local newspaper of general circulation and broadcast over local radio stations.

c) Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it.

BOARD NOTE: Derived from 40 CFR 124.10(c) (~~1987~~)
(1988), amended at 53 Fed. Reg. 28147, July 26, 1988.

(Source: Amended at 13 Ill. Reg. ,
effective)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER c: HAZARDOUS WASTE OPERATING REQUIREMENTS

PART 720
HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

SUBPART A: GENERAL PROVISIONS

Section
720.101 Purpose, Scope and Applicability
720.102 Availability of Information; Confidentiality of
Information
720.103 Use of Number and Gender

SUBPART B: DEFINITIONS

Section
720.110 Definitions
720.111 References

SUBPART C: RULEMAKING PETITIONS AND OTHER PROCEDURES

Section
720.120 Rulemaking
720.121 Alternative Equivalent Testing Methods
720.122 Waste Delisting
720.130 Procedures for Solid Waste Determinations
720.131 Solid Waste Determinations
720.132 Boiler Determinations
720.133 Procedures for Determinations
720.140 Additional regulation of certain hazardous waste
Recycling Activities on a case-by-case Basis
720.141 Procedures for case-by-case regulation of hazardous
waste Recycling Activities

Appendix A Overview of 40 CFR, Subtitle C Regulations

AUTHORITY: Implementing Section 22.4 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1987, ch. 111 1/2, pars. 1022.4 and 1027).

SOURCE: Adopted in R81-22, 43 PCB 427, at 5 Ill. Reg. 9781, effective as noted in 35 Ill. Adm. Code 700.106; amended and codified in R81-22, 45 PCB 317, at 6 Ill. Reg. 4828, effective as noted in 35 Ill. Adm. Code 700.106; amended in R82-19 at 7 Ill. Reg. 14015, effective Oct. 12, 1983; amended in R84-9, 53 PCB 131 at 9 Ill. Reg. 11819, effective July 24, 1985; amended in R85-22 at 10 Ill. Reg. 968, effective January 2, 1986; amended in R86-1 at 10 Ill. Reg. 13998, effective August 12, 1986; amended in R86-19 at 10 Ill. Reg. 20630, effective December 2, 1986; amended in R86-28 at 11 Ill. Reg. 6017, effective March 24, 1987; amended in R86-46 at 11 Ill. Reg. 13435, effective August 4, 1987; amended in R87-5 at 11 Ill. Reg. 19280, effective November 12, 1987; amended in R87-26 at 12 Ill. Reg. 2450, effective January 15, 1988; amended in R87-39 at 12 Ill. Reg. 12999, effective July

29, 1988; amended in R88-16 at 13 Ill. Reg. 362, effective December 27, 1988; amended in R89-1 at 13 Ill. Reg. , effective ; as amended in R89-2 at 13 Ill. Reg. , effective

SUBPART B: DEFINITIONS

Section 720.111 References

- a) The following publications are incorporated by reference:

ANSI. Available from the American National Standards Institute, 1430 Broadway, New York, New York 10018, (212) 354-3300:

ANSI B31.3 and B31.4. See ASME/ANSI B31.3 and B31.4

API. Available from the American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20005, (202) 682-8000:

"Guide for Inspection of Refinery Equipment, Chapter XIII, Atmospheric and Low Pressure Storage Tanks," 4th Edition, 1981, reaffirmed December, 1987.

"Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," API Recommended Practice 1632, Second Edition, December, 1987.

"Installation of Underground Petroleum Storage Systems," API Recommended Practice 1615, Fourth Edition, November, 1987.

ASME. Available from the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017, (212) 705-7722:

"Chemical Plant and Petroleum Refinery Piping", ASME/ANSI B31.3 - 1987, as supplemented by B31.3a - 1988 and B31.3b - 1988. Also available from ANSI.

"Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols", ASME/ANSI B31.4 - 1986, as supplemented by B31.4a - 1987. Also available from ANSI.

ASTM. Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA

19103, (215) 299-5400:

"ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester," ASTM Standard D-3828-87.

"ASTM Standard Test Methods for Flash Point Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80.

GPO. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20401, (202) 783-3238:

Standard Industrial Classification Manual (1972), and 1977 Supplement, republished in 1983

NACE. Available from the National Association of Corrosion Engineers, 1400 South Creek Dr., Houston, TX 77084, (713) 492-0535:

"Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems", NACE Recommended Practice RP0285-85, approved March, 1985.

NFPA. Available from the National Fire Protection Association, Batterymarch Park, Boston, MA 02269, (617) 770-3000 or (800) 344-3555:

"Flammable and Combustible Liquids Code", NFPA 30, issued July 17, 1987. Also available from ANSI.

NTIS. Available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600:

"Generic Quality Assurance Project Plan for Land Disposal Restrictions Program", EPA/530-SW-87-011, March 15, 1987. (Document number PB 88-170766.

"Methods for Chemical Analysis of Water and Wastes", Third Edition, March, 1983. (Document number PB 84-128677)

"Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities", EPA-530/SW-611, 1977. (Document number PB 84-174820)

"Test Methods for Evaluating Solid Waste,

Physical/Chemical Methods," EPA Publication number SW-846 (Second Edition, 1982 as amended by Update I (April, 1984) and Update II (April, 1985)) (Document number PB 87-120291)

STI. Available from the Steel Tank Institute, 728 Anthony Trail, Northbrook, IL 60062, (312) 498-1980:

"Standard for Dual Wall Underground Steel Storage Tanks" (1986).

USEPA. Available from United States Environmental Protection Agency, Office of Drinking Water, State Programs Division, WH 550 E, Washington, D.C. 20460:

"Technical Assistance Document: Corrosion, Its Detection and Control in Injection Wells", EPA 570/9-87-002, August, 1987.

- b) Code of Federal Regulations. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20401, (202) 783-3238:

10 CFR 20, Appendix B (1988)

40 CFR 136 (1988)

40 CFR 142 (1988)

40 CFR 220 (1988)

40 CFR 260.20 (1988)

40 CFR 264 (1988)

40 CFR 302.4, 302.5 and 302.6 (1988)

40 CFR 761 (1988)

- c) Federal Statutes

Section 3004 of the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.), as amended through December 31, 1987.

- d) This Section incorporates no later editions or amendments.

(Source: Amended at 13 Ill. Reg. ,
effective)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER d: UNDERGROUND INJECTION CONTROL AND UNDERGROUND
STORAGE TANK PROGRAMS

PART 730
UNDERGROUND INJECTION CONTROL OPERATING REQUIREMENTS

SUBPART A: GENERAL

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730.101	Applicability, Scope and Effective Date
730.102	Laws Authorizing Regulations
730.103	Definitions
730.104	Criteria for Exempted Aquifers
730.105	Classification of Injection Wells
730.106	Area of Review
730.107	Corrective Action
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730.109	Criteria for Establishing Permitting Priorities
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SUBPART B: CRITERIA AND STANDARDS APPLICABLE
TO CLASS I NON-HAZARDOUS WELLS

Section	
730.111	Applicability
730.112	Construction Requirements
730.113	Operating, Monitoring and Reporting Requirements
730.114	Information to be Considered by Agency

SUBPART C: CRITERIA AND STANDARDS APPLICABLE
TO CLASS II WELLS

Section	
730.121	Adoption of Criteria and Standards Applicable to Class II Wells by the Illinois Department of Mines and Minerals

SUBPART D: CRITERIA AND STANDARDS APPLICABLE
TO CLASS III WELLS

Section	
730.131	Applicability
730.132	Construction Requirements
730.133	Operating, Monitoring and Reporting Requirements
730.134	Information to be Considered by the Agency

SUBPART F: CRITERIA AND STANDARDS APPLICABLE
TO CLASS V INJECTION WELLS

Section	
730.151	Applicability

730.152 Inventory and Assessment

SUBPART G: CRITERIA AND STANDARDS APPLICABLE TO CLASS I
HAZARDOUS WELLS

<u>730.161</u>	<u>Applicability and Definitions</u>
<u>730.162</u>	<u>Minimum Criteria for Siting</u>
<u>730.163</u>	<u>Area of Review</u>
<u>730.164</u>	<u>Correction Action for Wells in the Area of Review</u>
<u>730.165</u>	<u>Construction Requirements</u>
<u>730.166</u>	<u>Logs, Samples and Tests Prior to New Well Operation</u>
<u>730.167</u>	<u>Operating Requirements</u>
<u>730.168</u>	<u>Testing and Monitoring Requirements</u>
<u>730.169</u>	<u>Reporting Requirements</u>
<u>730.170</u>	<u>Information to be Evaluated by the Director</u>
<u>730.171</u>	<u>Closure</u>
<u>730.172</u>	<u>Post-Closure Care</u>
<u>730.173</u>	<u>Financial Responsibility for Post-Closure Care</u>

AUTHORITY: Implementing Sections 13 and 22.4 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1987 ch. 111 1/2, pars. 1013, 1022.4 and 1027, as amended by P.A. 85-1048, effective January 1, 1989).

SOURCE: Adopted in R81-32, 47 PCB 93, at 6 Ill. Reg. 12,479, effective as, noted in 35 Ill. Adm. Code 700.106; amended in R82-19, 53 PCB 131 at 7 Ill. Reg. 14426 effective as noted in 35 Ill. Adm. Code 700.106; recodified at 10 Ill. Reg. 14174; amended in R89-2 at 13 Ill. Reg. , effective

SUBPART A: GENERAL

Section 730.101 Applicability, Scope and Effective Date

- a) This part sets forth technical criteria and standards for the Underground Injection Control (UIC) Program. This part should be read in conjunction with 35 Ill. Adm. Code 702, 704 and 705 which also apply to the UIC program. 35 Ill. Adm. Code 702 and 704 prescribe the regulatory requirements for the UIC permit program. 35 Ill. Adm. Code 705 describes the procedures the Illinois Environmental Protection Agency (Agency) will use for issuing UIC permits.
- b) On and after the date of approval by the United States Environmental Protection Agency (USEPA) of the Illinois UIC program February 1, 1984, any underground injection which is not authorized by rule or by permit is unlawful.

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 730.103 Definitions

The following definitions apply to the underground injection control program.

"Abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

"Act" or "RCRA" means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, (P.L. 94-580, as amended by Pub. L. 95-609, as amended, 42 U.S.C. 6901.)

"Administrator" means the Administrator of the U.S. Environmental Protection Agency or ~~his~~ the Administrator's designee.

"Agency" means the Illinois Environmental Protection Agency.

"Application" means the Agency forms for applying for a permit, including any additions, revisions or modifications to the forms. For RCRA, application also includes the information required by the Agency under 35 Ill. Adm. Code 703.182 et seq. (contents of Part B of the RCRA application).

"Aquifer" means a geological formation, group of formations or part of a formation that is capable of yielding a significant amount of water to a well or spring.

"Area of review" means the area surrounding an "injection well" described according to the criteria set forth in Section 730.106 or, in the case of an area permit, the project area plus a circumscribing area the width of which is either 402 meters (1/4 of a mile) or a number calculated according to the criteria set forth in Section 730.106.

"Casing" means a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground or to prevent water gas or other fluid from entering or leaving the hole.

"Catastrophic collapse" means the sudden and utter failure of overlying "strata" caused by removal of underlying materials.

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

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

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

"Confining zone" means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement above an injection zone.

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

"Date of approval by USEPA of the Illinois UIC program" means the date on which "USEPA" delegates primacy for the "UIC" program for Class I, III, IV and V wells to the State of Illinois pursuant to Section 1422 of the "SDWA" and 40 CFR ~~123~~February 1, 1984.

"Director" means the Director of the Illinois Environmental Protection Agency or ~~his~~the Administrator's designee.

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

"Effective date of the UIC program" means the ~~"date of approval by USEPA of the Illinois UIC program."~~"February 1, 1984.

"Environmental Protection Act" means the Environmental Protection Act (Ill. Rev. Stat. ~~1981~~1988 ch. 111 1/2, par. 1001), as amended.

"EPA" means the United States Environmental Protection Agency.

"Exempted aquifer" means an "aquifer" or its portion that meets the criteria in the definition of "underground source of drinking water" but which has been exempted according to the procedures of 35 Ill. Adm. Code 704.123, 704.104 and 702.105.

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

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

"Facility or activity" means any "HWM facility," UIC "injection well" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the "State" RCRA or UIC program.

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

"Flow rate" means the volume per unit time of the flow of a gas or other fluid substance which emerges from an orifice, pump or turbine or which passes along a conduit or channel.

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

"Formation" means a body of rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

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

"Generator" means any person, by site location, whose act or process produces hazardous waste identified or listed in 35 Ill. Adm. Code 721.

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

"Hazardous waste" means a hazardous waste as defined in 35 Ill. Adm. Code 721.103.

"Hazardous Waste Management facility" ("HWM facility") means all contiguous land, and structures, other appurtenances and improvements on the land used for treating, storing or disposing of hazardous waste. A facility may consist of several treatment, storage or disposal operational units (for example, one or more landfills, surface impoundments or combination of them).

"HWM facility" means "Hazardous Waste Management facility."

"Illinois" means the State of Illinois.

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

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

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

"Owner or operator" means the owner or operator of any facility or activity subject to regulation under the RCRA, UIC, Environmental Protection Act or 404 programs.

"Packer" means a device lowered into a well which can be expanded to produce a fluid-tight seal.

"Permit" means an authorization, license or equivalent control document issued by the Agency to implement the requirements of this Part and 35 Ill. Adm. Code 702 through 705. Permit does not include RCRA interim status, (35 Ill. Adm. Code 703, Subpart C), UIC authorization by rule (Subpart C of 35 Ill. Adm. Code 704), or any permit which has not yet been the subject of final Agency action, such as a "draft permit" or a "proposed permit."

"Plugging" means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.

"Plugging record" means a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness and location of plugging structures.

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

"Project" means a group of wells in a single operation.

"Radioactive Waste" means any waste which contains radioactive material in concentrations which exceed those listed in 10 CFR 20, Appendix B, Table II, Column 2, incorporated by reference in 35 Ill. Adm. Code 720.111.

"RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95-609, 42 U.S.C. 6901-7) "Act".

"SDWA" means the Safe Drinking Water Act (Pub. L. 95-523, as amended by Pub. L. 95-190, 42 U.S.C. 300(f)).

"Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Sole or principal source aquifer" means an aquifer which has been designated by the Administrator pursuant to Sections 1424(a) or (3) of the SDWA.

"State" means the State of Illinois.

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

"Subsidence" means the lowering of the natural land surface in response to: earth movements; lowering of fluid pressure, removal of underlying supporting material by mining or solution of solids, either artificially or from natural causes; compaction due to wetting (Hydrocompaction); oxidation of organic matter in soils; or added load on the land surface.

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

"Total dissolved solids" ("TDS") means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR 136, incorporated by reference in 35 Ill. Adm. Code 720.111.

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

"Underground injection" means a "well injection."

"Underground source of drinking water" ("USDW") means an "aquifer" or its portion:

Which supplies any public water system; or

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

Currently supplies drinking water for human consumption; or

Contains less than 10,000 mg/±L total dissolved solids; and

Which is not an exempted "aquifer".

"USDW" means "underground source of drinking water."

"Well" means a bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension.

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

"Well stimulation" means several processes used to clean the well bore, enlarge channels and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes surging, jetting, blasting, acidizing and hydraulic fracturing.

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

BOARD NOTE: Derived from 40 CFR 146.3 (1988).

(Source: Amended at 13 Ill. Reg. ,
effective)

SUBPART B: CRITERIA AND STANDARDS APPLICABLE TO
CLASS I NON-HAZARDOUS WELLS

Section 730.111 Applicability

This Subpart establishes criteria and standards for underground injection control programs to regulate Class I non-hazardous wells.

BOARD NOTE: Derived from 40 CFR 146.11 (1988), as amended at 53 Fed. Reg. 28148, July 26, 1988.

(Source: Amended at 13 Ill. Reg. ,
effective)

Section 730.113 Operating, Monitoring and Reporting
Requirements

- a) Operating Requirements. Operating requirements shall, at a minimum, specify that:

- 1) Except during stimulation, injection pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case shall injection pressure initiate fractures in the confining zone or cause the movement of injection or formation fluids into an underground source of drinking water.
 - 2) Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited.
 - 3) Unless an alternative to a packer has been approved under Section 730.112(c), the annulus between the tubing and the long string of casings shall be filled with a fluid approved by the Agency permit condition, and a pressure, also approved by the Agency, prescribed by permit condition shall be maintained on the annulus.
- b) Monitoring Requirements. Monitoring requirements shall, at a minimum, include:
- 1) The analysis of the injected fluids with sufficient frequency to yield representative data of their characteristics;
 - 2) Installation and use of continuous recording devices to monitor injection pressure, flow rate and volume, and the pressure on the annulus between the tubing and the long string of casing;
 - 3) A demonstration of mechanical integrity pursuant to Section 730.108 at least once every five years during the life of the well; and
 - 4) The type, number and location of wells within the area of review to be used to monitor any migration of fluids into and pressure in the underground sources of drinking water, the parameters to be measured and the frequency of monitoring.
- c) Reporting Requirements. Reporting requirements shall, at a minimum, include:
- 1) Quarterly reports to the Agency on:
 - A) The physical, chemical and other relevant characteristics of injection fluids;
 - B) Monthly average, maximum and minimum values

for injection pressure, flow rate and volume, and annular pressure; and

C) The results of monitoring prescribed under subsection (b)(4).

2) Reporting the results, with the first quarterly report after the completion of:

A) Periodic tests of mechanical integrity;

B) Any other test of the injection well conducted by the permittee if required by the Agency permit condition; and

C) Any well work over.

d) Ambient monitoring.

1) Based on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement, the Agency shall require the owner or operator to develop a monitoring program. At a minimum, the Agency shall require monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.

2) When prescribing a monitoring system the Agency may also require:

A) Continuous monitoring for pressure changes in the first aquifer overlying the confining zone. When such a well is installed, the owner or operator shall, on a quarterly basis, sample the aquifer and analyze for constituents specified by permit condition;

B) The use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by permit condition or to provide other site-specific data;

C) Periodic monitoring of the ground water quality in the first aquifer overlying the injection zone;

D) Periodic monitoring of the ground water quality in the lowermost USDW; and

- E) Any additional monitoring necessary to determine whether fluids are moving into or between USDWs.

BOARD NOTE: Derived from 40 CFR 146.13 (1988), as amended at 53 Fed. Reg. 28148, July 26, 1988.

(Source: Amended at 13 Ill. Reg. ,
effective)

SUBPART G: CRITERIA AND STANDARDS APPLICABLE TO CLASS I
HAZARDOUS WELLS

Section 730.161 Applicability and Definitions

- a) This Subpart establishes criteria and standards for underground injection control programs to regulate Class I hazardous waste injection wells. Unless otherwise noted, this Subpart supplements the requirements of Subpart A and applies instead of Subpart B to Class I hazardous waste injection wells.

b) Definitions

"Cone of influence" means that area around the well within which increased injection zone pressures caused by injection into the hazardous waste injection well would be sufficient to drive fluids into a USDW.

"Existing well" means a Class I well which had a UIC permit or UIC permit by rule prior to August 25, 1988 or a well which has become a Class I well as a result of a change in the definition of the injected waste which would render the waste hazardous under 35 Ill. Adm. Code 721.103.

"Injection interval" means that part of the injection zone in which the well is screened, or in which the waste is otherwise directly emplaced.

"New well" means any Class I hazardous waste injection well which is not an existing well.

"Transmissive fault or fracture" is a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.

BOARD NOTE: Derived from 40 CFR 146.61, as added at 53 Fed. Reg. 28148, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.162 Minimum Criteria for Siting

- a) All Class I hazardous waste injection wells must be sited such that they inject into a formation that is beneath the lowermost formation containing, within 402 meters (1/4 mile) of the well bore, a USDW.
- b) The siting of Class I hazardous waste injection wells shall be limited to areas that are geologically suitable. The Agency shall determine geologic suitability based upon:
 - 1) An analysis of the structural and stratigraphic geology, the hydrogeology and the seismicity of the region;
 - 2) An analysis of the local geology and hydrogeology of the well site, including, at a minimum, detailed information regarding stratigraphy, structure and rock properties, aquifer hydrodynamics and mineral resources; and
 - 3) A determination that the geology of the area can be described confidently and that limits of waste fate and transport can be accurately predicted through the use of models.
- c) Class I hazardous waste injection wells shall be sited such that:
 - 1) The injection zone has sufficient permeability, porosity, thickness and area extent to prevent migration of fluids into USDWs; and
 - 2) The confining zone:
 - A) Is laterally continuous and free of transecting, transmissive faults or fractures over an area sufficient to prevent the movement of fluids into a USDW; and
 - B) Contains at least one formation of sufficient thickness and with lithologic and stress characteristics capable of preventing vertical propagation of fractures.
- d) The owner or operator shall demonstrate to the Agency that:
 - 1) The confining zone is separated from the base of the lowermost USDW by at least one sequence of

permeable and less permeable strata that will provide an added layer of protection for the USDW in the event of fluid movement in an unlocated borehole or transmissive fault; or

- 2) Within the area of review, the piezometric surface of the fluid in the injection zone is less than the piezometric surface of the lowermost USDW, considering density effects, injection pressures and any significant pumping in the overlying USDW; or
- 3) There is no USDW present.
- 4) The owner or operator of a site which does not meet the requirements in subsection (d)(1), (d)(2), or (d)(3) may petition the Board for an adjusted standard pursuant to 35 Ill. Adm. Code 106.Subpart G. The Board may grant an adjusted standard approving such a site if it determines that because of site geology, nature of the wastes involved, or other considerations, abandoned boreholes or other conduits would not cause an endangerment of USDWs. A petition for an adjusted standard under this subsection must include the following components:
 - A) Those portions of a permit application for the particular injection activities and site which are relevant to the Board's determination; and
 - B) Such other relevant information that the Board may by order require pursuant to 35 Ill. Adm. Code 106.705(1).

BOARD NOTE: Derived from 40 CFR 146.62, as added at 53 Fed. Reg. 28148, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.163 Area of Review

For the purposes of Class I hazardous waste injection wells, this Section applies instead of Section 730.106. The area of review for Class I hazardous waste wells shall be a 2-mile radius around the well bore. The Agency may specify by permit condition a larger area of review in the UIC permit based on the calculated cone of influence of the well.

BOARD NOTE: Derived from 40 CFR 146.63, added at 53 Fed. Reg. 28148, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.164 Corrective Action for Wells in the Area of Review

For the purposes of Class I hazardous waste injection wells, this Section applies instead of 35 Ill. Adm. Code 704.193 and Section 730.107.

- a) The owner or operator of a Class I hazardous waste well shall, as part of the permit application, submit a plan to the Agency outlining the protocol used to:
 - 1) Identify all wells penetrating the confining zone or injection zone within the area of review; and
 - 2) Determine whether wells are adequately completed or plugged.

- b) The owner or operator of a Class I hazardous waste well shall identify the location of all wells within the area of review that penetrate the injection zone or the confining zone and shall submit as required in Section 730.170(a):
 - 1) A tabulation of all wells within the area of review that penetrate the injection zone or the confining zone; and
 - 2) A description of each well or type of well and any records of its plugging or completion.

- c) For wells that the Agency determines are improperly plugged, completed or abandoned, or for which plugging or completion information is unavailable, the applicant shall also submit a plan consisting of such steps or modification as are necessary to prevent movement of fluids into or between USDWs. Where the plan is adequate, the Agency shall incorporate it into the permit as a condition. Where the Agency's review of an application indicates the permittee's plan is inadequate (based at a minimum on the factors in subsection (e)), the Agency shall:
 - 1) Require the applicant to revise the plan;
 - 2) Prescribe a plan for corrective action as a condition of the permit; or
 - 3) Deny the application

- d) Requirements:

- 1) Existing injection wells. Any permit issued for an existing Class I hazardous waste injection well requiring corrective action other than pressure limitations must include a compliance schedule under 35 Ill. Adm. Code 702.162 requiring any corrective action accepted or prescribed under subsection (c). Any such compliance schedule must provide for compliance no later than 2 years following issuance of the permit and must require observance of appropriate pressure limitations under subsection (d)(3) until all other corrective action measures have been implemented.
 - 2) New injection wells. No owner or operator of a new Class I hazardous waste injection well may begin injection until all corrective actions required under this Section have been taken.
 - 3) The Agency may require pressure limitations instead of plugging. If pressure limitations are used instead of plugging, the Agency shall require as a permit condition that injection pressure be limited so that pressure in the injection zone at the site of any improperly completed or abandoned well within the area of review would not be sufficient to drive fluids into or between USDWs. This pressure limitation shall satisfy the corrective action requirements. Alternatively, such injection pressure limitation may be made part of a compliance schedule under 35 Ill. Adm. Code 702.162 and may be required to be maintained until all other required corrective actions have been implemented.
- e) The Agency shall consider the following criteria and factors in determining the adequacy of corrective action proposed by the applicant under subsection (c) and in determining the additional steps needed to prevent fluid movement into and between USDWs:
- 1) Nature and volume of injected fluid;
 - 2) Nature of native fluids or byproducts of injection;
 - 3) Geology;
 - 4) Hydrology;
 - 5) History of the injection operation;
 - 6) Completion and plugging records;
 - 7) Closure procedures in effect at the time the well was closed;

- 8) Hydraulic connections with USDWs;
- 9) Reliability of the procedures used to identify abandoned wells; and
- 10) Any other factors which might affect the movement of fluids into or between USDWs.

BOARD NOTE: Derived from 40 CFR 146.64, as added at 53 Fed. Reg. 28149, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.165 Construction Requirements

- a) General. All existing and new Class I hazardous waste injection wells shall be constructed and completed to:
 - 1) Prevent the movement of fluids into or between USDWs or into any unauthorized zones;
 - 2) Permit the use of appropriate testing devices and workover tools; and
 - 3) Permit continuous monitoring of injection tubing and long string casing as required pursuant to Section 730.167(f);
- b) Compatibility. All well materials must be compatible with fluids with which the materials may be expected to come into contact. The owner or operator shall employ any compatibility testing method specified by permit condition. The owner or operator may otherwise refer to "Technical Assistance Document: Corrosion, Its Detection and Control in Injection Wells," EPA 570/9-87-002, incorporated by reference at 35 Ill. Adm. Code 720.111.
- c) Casing and Cementing New Wells.
 - 1) Casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well, including the post-closure care period. The casing and cementing program shall be designed to prevent the movement of fluids into or between USDWs, and to prevent potential leaks of fluids from the well. The Agency shall consider the following information as required by Section 730.170 in determining and specifying casing and cementing requirements:
 - A) Depth to the injection zone;

- B) Injection pressure, external pressure, internal pressure and axial loading;
 - C) Hole size;
 - D) Size and grade of all casing strings (well thickness, diameter, nominal weight, length, joint specification and construction material);
 - E) Corrosiveness of injected fluid, formation fluids and temperature;
 - F) Lithology of injection and confining zones;
 - G) Type or grade of cement; and
 - H) Quantity and chemical composition of the injected fluid.
- 2) One surface casing string must, at a minimum, extend into the confining bed below the lowest formation that contains a USDW and be cemented by circulating cement from the base of the casing to the surface, using a minimum of 120% of the calculated annular volume. The Agency may require more than 120% when the geology or other circumstances warrant it.
- 3) At least one long string casing, using a sufficient number of centralizers, must extend to the injection zone and must be cemented by circulating cement to the surface in one or more stages:
- A) Of sufficient quantity and quality to withstand the maximum operating pressure; and
 - B) In a quantity no less than 120% of the calculated volume necessary to fill the annular space. The Agency shall require more than 120% when the geology or other circumstances warrant it.
- 4) Circulation of cement may be accomplished by staging. The Agency may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement is continuous and does not allow fluid movement behind the well bore.
- 5) Casings, including any casing connections, must be rated to have sufficient structural strength to

withstand, for the design life of the well:

A) The maximum burst and collapse pressures which may be experienced during the construction, operation and closure of the well; and

B) The maximum tensile stress which may be experienced at any point along the length of the casing during the construction, operating, and closure of the well.

6) At a minimum, cement and cement additives must be of sufficient quality and quantity to maintain integrity over the design life of the well.

d) Tubing and packer.

1) All Class I hazardous waste injection wells must inject fluids through tubing with a packer set at a point specified by permit condition.

2) In determining and specifying requirements for tubing and packer, the following factors must be considered;

A) Depth of setting;

B) Characteristics of injection fluid (chemical content, corrosiveness, temperature and density);

C) Injection pressure;

D) Annular pressure;

E) Rate (intermittent or continuous), temperature and volume of injected fluid;

F) Size of casing; and

G) Tubing tensile, burst, and collapse strengths.

3) The Agency may approve the use of a fluid seal if it determines that the following conditions are met:

A) The operator demonstrates that the seal will provide a level of protection comparable to a packer;

B) The operator demonstrates that the staff is, and will remain, adequately trained to operate and maintain the well and to identify and interpret variations in parameters of concern;

- C) The permit contains specific limitations on variations in annular pressure and loss of annular fluid;
- D) The design and construction of the well allows continuous monitoring of the annular pressure and mass balance of annular fluid; and
- E) A secondary system is used to monitor the interface between the annulus fluid and the injection fluid and the permit contains requirements for testing the system every three months and recording the results.

BOARD NOTE: Derived from 40 CFR 146.65, added at 53 Fed. Reg. 28149, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.166 Logging, Sampling, and Testing Prior to New Well Operation

- a) During the drilling and construction of a new Class I hazardous waste injection well, the owner or operator shall run appropriate logs and tests to determine or verify the depth, thickness, porosity, permeability, rock type and the salinity of any entrained fluids in, all relevant geologic units to assure conformance with performance standards in Section 730.165 and to establish accurate baseline data against which future measurements may be compared. A descriptive report interpreting results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the Agency. At a minimum, such logs and tests must include:
 - 1) Deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the location of the borehole and to assure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling; and
 - 2) Such other logs and tests as may be needed after taking into account the availability of similar data in the area of the drilling site, the construction plan, and the need for additional information that may arise from time to time as the construction of the well progresses. At a minimum, the following logs must be required in the

following situations:

- A) Upon installation of the surface casing:
 - i) Resistivity, spontaneous potential, and caliber logs before the casing is installed; and
 - ii) A cement bond and variable density log, and a temperature log after the casing is set and cemented; and
- B) Upon installation of the long string casing:
 - i) Resistivity, spontaneous potential, porosity, caliper, gamma ray, and fracture finder logs before the casing is installed; and
 - ii) A cement bond and variable density log, and a temperature log after the casing is set and cemented; and
- C) The Agency shall allow the use of an alternative to the above logs when an alternative will provide equivalent or better information; and

3) A mechanical integrity test consisting of:

- A) A pressure test with liquid or gas;
- B) A radioactive tracer survey;
- C) A temperature or noise log;
- D) A casing inspection log, if required by permit condition; and
- E) Any other test required by permit condition.

- b) Whole cores or sidewall cores of the confining and injection zones and formation fluid samples from the injection zone must be taken. The Agency may accept cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The Agency may require the owner or operator to core other formations in the borehole.
- c) The fluid temperature, pH, conductivity, pressure and the static fluid level of the injection zone must be recorded.

- d) At a minimum, the following information concerning the injection and confining zones shall be determined or calculated for Class I hazardous waste injection wells:
- 1) Fracture pressure;
 - 2) Other physical and chemical characteristics of the injection and confining zones; and
 - 3) Physical and chemical characteristics of the formation fluids in the injection zone.
- e) Upon completion, but prior to operation, the owner or operator shall conduct the following tests to verify hydrogeologic characteristics of the injection zone:
- 1) A pump test; or
 - 2) Injectivity tests.
- f) The Agency shall have the opportunity to witness all logging and testing required by this Subpart. The owner or operator shall submit a schedule of such activities to the Agency not less than 30 days prior to conducting the first test.

BOARD NOTE: Derived from 40 CFR 146.66, as added at 53 Fed. Reg. 28150, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.167 Operating Requirements.

- a) Except during stimulation, the owner or operator shall assure that injection pressure at the wellhead does not exceed a maximum which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. The owner or operator shall assure that the injection pressure does not initiate fractures or propagate existing fractures in the confining zone, nor cause the movement of injection or formation fluids into a USDW.
- b) Injection between the outermost casing protecting USDWs and the well bore is prohibited.
- c) The owner or operator shall maintain an annulus pressure that exceeds the operating injection pressure, unless the Agency determines that such a requirement might harm the integrity of the well. The fluid in the annulus must be noncorrosive, or must contain a corrosion inhibitor.

- d) The owner or operator shall maintain mechanical integrity of the injection well at all times.
- e) Permit requirements for owners or operators of hazardous waste injection wells which inject wastes which have the potential to react with the injection formation to generate gases must include:
 - 1) Conditions limiting the temperature, pH or acidity of the injected waste; and
 - 2) Procedures necessary to assure that pressure imbalances which might cause a backflow or blowout do not occur.
- f) The owner or operator shall install and use continuous recording devices to monitor: the injection pressure; the flow rate, volume, and temperature of injected fluids, and the pressure on the annulus between the tubing and the long string casing, and shall install and use:
 - 1) Automatic alarm and automatic shut-off systems, designed to sound and shut-in the well when pressures and flow rates or other parameters specified by permit condition exceed a range or gradient specified in the permit; or
 - 2) Automatic alarms, designed to sound when the pressures and flow rates or other parameters exceed a rate or gradient specified in the permit, in cases where the owner or operator certifies that a trained operator will be on-site at all times when the well is operating.
- g) If an automatic alarm or shutdown is triggered, the owner or operator shall immediately investigate and identify the cause of the alarm or shutoff without undue delay. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required under subsection (f) otherwise indicates that the well may be lacking mechanical integrity, the owner or operator shall:
 - 1) Stop injecting waste fluids unless authorized by permit condition to continue or resume injection;
 - 2) Take all necessary steps to determine the presence or absence of a leak; and
 - 3) Notify the Agency within 24 hours after the alarm or shutdown.

- h) If a loss of mechanical integrity is discovered pursuant to subsection (g) or during periodic mechanical integrity testing, the owner or operator shall:
- 1) Immediately cease injection of waste fluids;
 - 2) Take all steps reasonably necessary to determine whether there may have been a release of hazardous wastes or hazardous waste constituents into any unauthorized zone;
 - 3) Notify the Agency within 24 hours after loss of mechanical integrity is discovered;
 - 4) Notify the Agency when injection can be expected to resume; and
 - 5) Restore and demonstrate mechanical integrity pursuant to Section 730.108 prior to resuming injection of waste fluids.
- i) Whenever the owner or operator obtains evidence that there may have been a release of injected wastes into an unauthorized zone:
- 1) The owner or operator shall immediately cease injection of waste fluids, and:
 - A) Notify the Agency within 24 hours of obtaining such evidence;
 - B) Take all necessary steps to identify and characterize the extent of any release;
 - C) Comply with any remediation plan specified by permit condition;
 - D) Implement any remediation plan specified by permit condition; and
 - E) Where such release is into a USDW currently serving as a water supply, place a notice in a newspaper of general circulation.
 - 2) The Agency shall permit the operator to resume injection prior to completing cleanup action if the owner or operator demonstrates that the injection operation will not endanger USDWs.
- j) The owner or operator shall notify the Agency and obtain a permit modification prior to conducting any well workover.

BOARD NOTE: Derived from 40 CFR 146.67, as added at 53 Fed. Reg. 28150, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.168 Testing and Monitoring Requirements

Testing and monitoring requirements shall at a minimum include:

- a) Monitoring of the injected wastes.
 - 1) The owner or operator shall develop and follow an approved written waste analysis plan that describes the procedures to be carried out to obtain a detailed chemical and physical analysis of a representative sample of the waste, including the quality assurance procedures used. At a minimum, the plan shall specify:
 - A) The parameters for which the waste will be analyzed and the rationale for the selection of these parameters;
 - B) The test methods that will be used to test for these parameters; and
 - C) The sampling method that will be used to obtain a representative sample of the waste to be analyzed.
 - 2) The owner or operator shall repeat the analysis of the injected wastes as described in the waste analysis plan at frequencies specified in the waste analysis plan and when process or operating changes occur that may significantly alter the characteristics of the waste stream.
 - 3) The owner or operator shall conduct continuous or periodic monitoring of selected parameters as required by permit condition.
 - 4) The owner or operator shall assure that the plan remains accurate and the analyses remain representative.
- b) Hydrogeologic compatibility determination. The owner or operator shall submit information demonstrating that the wastestream and its anticipated reaction products will not alter the permeability, thickness or other relevant characteristics of the confining or injection zones such that they would no longer meet the requirements specified in Section 730.162.

c) Compatibility of well materials.

1) The owner or operator shall demonstrate that the waste stream will be compatible with the well materials with which the waste is expected to come into contact, and submit to the Agency a description of the methodology used to make that determination. Compatibility for the purposes of this requirement is established if contact with injected fluids will not cause the well materials to fail to satisfy any design requirement imposed under Section 730.165(b).

2) The Agency shall require continuous corrosion monitoring of the construction materials used in the well for wells injecting corrosive waste, and may require such monitoring for other wastes, by:

A) Placing coupons of the well construction materials in contact with the waste stream; or

B) Routing the waste stream through a loop constructed with the material used in the well; or

C) Using an alternative method approved by permit condition.

3) If a corrosion monitoring program is required:

A) The test must use materials identical to those used in the construction of the well, and such materials must be continuously exposed to the operating pressures and temperatures (measured at the well head) and flow rates of the injection operation; and

B) The owner or operator shall monitor the materials for loss of mass, thickness, cracking, pitting and other signs of corrosion on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in Section 730.165(b).

d) Periodic mechanical integrity testing. In fulfilling the requirements of Section 730.108, the owner or operator of a Class I hazardous waste injection well shall conduct the mechanical integrity testing as follows:

1) The long string casing, injection tube, and annular seal must be tested by means of an approved pressure test with a liquid or gas annually and

whenever there has been a well workover;

- 2) The bottom-hole cement must be tested by means of an approved radioactive tracer survey annually;
- 3) An approved temperature, noise, or other approved log must be run at least once every five years to test for movement of fluid along the borehole. The Agency may require such tests whenever the well is worked over;
- 4) Casing inspection logs must be run at least once every five years unless the permit specifies otherwise due to well construction or other factors which limit the test's reliability; and
- 5) Any other test specified by permit condition in accordance with the procedures in Section 730.108(d) may also be used.

e) Ambient Monitoring.

- 1) Based on a site-specific assessment of the potential for fluid movement from the well or injection zone, and on the potential value of monitoring wells to detect such movement, the Agency shall require the owner or operator to develop a monitoring program. At a minimum, the Agency shall require monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.
- 2) When prescribing a monitoring system the Agency may also require:
 - A) Continuous monitoring for pressure changes in the first aquifer overlying the confining zone. When such a well is installed, the owner or operator shall, on a quarterly basis, sample the aquifer and analyze for constituents specified by permit condition;
 - B) The use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by permit condition, or to provide other site-specific data;
 - C) Periodic monitoring of the groundwater quality in the first aquifer overlying the injection zone;

- D) Periodic monitoring of the ground water quality in the lowermost USDW;
- E) Any additional monitoring necessary to determine whether fluids are moving into or between USDWs; and
- F) The Agency may require seismicity monitoring when it has reason to believe that the injection activity may have the capacity to cause seismic disturbances.

BOARD NOTE: Derived from 40 CFR 146.68, as added at 53 Fed. Reg. 28151, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.169 Reporting Requirements

Reporting requirements must, at a minimum, include:

- a) Quarterly reports to the Agency containing:
 - 1) The maximum injection pressure;
 - 2) A description of any event that exceeds operating parameters for annulus pressure or injection pressure as specified in the permit;
 - 3) A description of any event which triggers an alarm or shutdown device required pursuant to Section 730.167(f) and the response taken;
 - 4) The total volume of fluid injected;
 - 5) Any change in the annular fluid volume;
 - 6) The physical, chemical and other relevant characteristics of injected fluids; and
 - 7) The results of monitoring prescribed under Section 730.168; and
- b) Reporting, within 30 days or with the next quarterly report whichever comes later, the results of;
 - 1) Periodic tests of mechanical integrity;
 - 2) Any other test of the injection well conducted by the permittee if required by permit condition; and
 - 3) Any well workover.

BOARD NOTE: Derived from 40 CFR 146.69, as added at 53 Fed. Reg. 28152, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.170 Information to be Evaluated

This section sets forth the information which must be evaluated by the Agency in authorizing Class I hazardous waste injection wells. For a new Class I hazardous waste injection well, the owner or operator shall submit all the information listed below as part of the permit application. For an existing or converted Class I hazardous waste injection well, the owner or operator shall submit all information listed below as part of the permit application except for those items of information which are current, accurate and available in the existing permit file. For both existing and new Class I hazardous waste injection wells, certain maps, cross-sections, tabulations of wells within the area of review and other data may be included in the application by reference, provided they are current and readily available to the Agency (for example, in the permitting Agency's file) and sufficiently identifiable to be retrieved.

- a) Before issuing a permit for an existing Class I hazardous waste injection well to operate or the construction or conversion of a new Class I hazardous waste injection well, the Agency shall review the following to assure that the requirements of this Part and 35 Ill. Adm. Code 702 and 704 are met:
- 1) Information required in 35 Ill. Adm. Code 704.161;
 - 2) A map showing the injection well for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number or name and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads. The map must also show faults, if known or suspected;
 - 3) A tabulation of all wells within the area of review which penetrate the proposed injection zone or confining zone. Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging or completion and any additional information the Agency may require;
 - 4) The protocol followed to identify, locate and ascertain the condition of abandoned wells within

the area of review which penetrate the injection or the confining zones;

- 5) Maps and cross-sections indicating the general vertical and lateral limits of all underground sources of drinking water within the area of review, their position relative to the injection formation and the direction of water movement, where known, in each underground source of drinking water which may be affected by the proposed injection;
- 6) Maps and cross-sections detailing the geologic structure of the local area;
- 7) Maps and cross-sections illustrating the regional geologic setting;
- 8) Proposed operating data:
 - A) Average and maximum daily rate and volume of the fluid to be injected; and
 - B) Average and maximum injection pressure;
- 9) Proposed formation testing program to obtain an analysis of the chemical, physical and radiological characteristics of and other information on the injection formation and the confining zone;
- 10) Proposed stimulation program;
- 11) Proposed injection procedure;
- 12) Schematic or other appropriate drawings of the surface and subsurface construction details of the well;
- 13) Contingency plan to cope with all shut-ins or well failures so as to prevent migration of fluids into any USDW;
- 14) Plans (including maps) for meeting monitoring requirements of Section 730.168;
- 15) For wells within the area of review which penetrate the injection zone or the confining zone but are not properly completed or plugged, the corrective action to be taken under Section 730.164;
- 16) Construction procedures including a cementing and casing program, well materials specification and their life expectancy, logging procedures, deviation checks, and a drilling, testing and

coring program; and

17) A demonstration pursuant to 35 Ill. Adm. Code 704.Subpart G, that the applicant has the resources necessary to close, plug or abandon the well and for post-closure care.

b) Before the Agency grants approval for the operation of a Class I hazardous waste injection well, the owner or operator shall submit and the Agency shall review the following information, which must be included in the completion report:

- 1) All available logging and testing program data on the well;
- 2) A demonstration of mechanical integrity pursuant to Section 730.168;
- 3) The anticipated maximum pressure and flow rate at which the permittee will operate;
- 4) The results of the injection zone and confining zone testing program as required in Section 730.170(a)(9);
- 5) The actual injection procedure;
- 6) The compatibility of injected waste with fluids in the injection zone and minerals in both the injection zone and the confining zone and with the materials used to construct the well;
- 7) The calculated area of review based on data obtained during logging and testing of the well and the formation and, where necessary, revisions to the information submitted under Section 730.170(a)(2) and (3); and
- 8) The status of corrective action on wells identified in Section 730.170(a)(15).

c) Prior to granting approval for the plugging and abandonment (i.e., closure) of a Class I hazardous waste injection well, the Agency shall review the information required in Sections 730.171(a)(4) and 730.172(a).

d) Any permit issued for a Class I hazardous waste injection well for disposal on the premises where the waste is generated must contain a certification by the owner or operator that:

- 1) The generator of the hazardous waste has a program to reduce the volume or quantity and toxicity of

such waste to the degree determined by the generator to be economically practicable; and

- 2) Injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment.

BOARD NOTE: Derived from 40 CFR 146.70, as added at 53 Fed. Reg. 28152, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.171 Closure

- a) Closure Plan. The owner or operator of a Class I hazardous waste injection well shall prepare, maintain, and comply with a plan for closure of the well that meets the requirements of subsection (d) and is specified by permit condition. The obligation to implement the closure plan survives the termination of a permit or the cessation of injection activities. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.
 - 1) The owner or operator shall submit the plan as a part of the permit application and, upon approval by the Agency, such plan must be a condition of any permit issued.
 - 2) The owner or operator shall submit any proposed significant revision to the method of closure reflected in the plan for approval by the Agency no later than the date on which notice of closure is required to be submitted to the Agency under subsection (b).
 - 3) The plan must assure financial responsibility as required in 35 Ill. Adm. Code 704.189.
 - 4) The plan must include the following information:
 - A) The type and number of plugs to be used;
 - B) The placement of each plug including the evaluation of the top and bottom of each plug;
 - C) The type and grade and quantity of material to be used in plugging;
 - D) The method of placement of the plugs;

- E) Any proposed test or measure to be made;
- F) The amount, size and location (by depth) of casing and any other materials to be left in the well;
- G) The method and location where casing is to be parted, if applicable;
- H) The procedure to be used to meet the requirements of subsection (d)(5); and
- I) The estimated cost of closure.
- 5) The Agency must modify a closure plan following the procedures of 35 Ill. Adm. Code 702.Subpart C.
- 6) An owner or operator of a Class I hazardous waste injection well who stops injection temporarily, may keep the well open if the owner or operator:
 - A) Has received authorization from the Agency; and
 - B) Has described actions or procedures, satisfactory to the Agency, that the owner or operator will take actions to ensure that the well will not endanger USDWs during the period of temporary disuse. These actions and procedures must include compliance with the technical requirements applicable to active injection wells unless otherwise waived by permit condition.
 - C) For the purposes of this subsection, submitting a description of actions or procedures for Agency authorization is in the nature of a permit application, and the owner or operator may appeal the Agency's decision to the Board.
- 7) The owner or operator of a well that has ceased operations for more than two years shall notify the Agency at least 30 days prior to resuming operation of the well.
 - b) Notice of intent to close. The owner or operator shall notify the Agency at least 60 days before closure of a well.
 - c) Closure report. Within 60 days after closure or at the time of the next quarterly report (whichever is less) the owner or operator shall submit a closure report to

the Agency. If the quarterly report is due less than 15 days after completion of closure, then the report must be submitted within 60 days after closure. The report must be certified as accurate by the owner or operator and by the person who performed the closure operation (if other than the owner or operator). Such report must consist of either:

- 1) A statement that the well was closed in accordance with the closure plan previously submitted and approved by the Agency; or
- 2) Where actual closure differed from the plan previously submitted, a written statement specifying the differences between the previous plan and the actual closure.

d) Standards for well closure.

- 1) Prior to closing the well, the owner or operator shall observe and record the pressure decay for a time specified by permit condition. The Agency shall analyze the pressure decay and the transient pressure observations conducted pursuant to Section 730.168(e)(1)(A) and determine whether the injection activity has conformed with predicted values.
- 2) Prior to well closure, appropriate mechanical integrity testing must be conducted to ensure the integrity of that portion of the long string casing and cement that will be left in the ground after closure. Testing methods may include:
 - A) Pressure tests with liquid or gas;
 - B) Radioactive tracer surveys;
 - C) Noise, temperature, pipe evaluation, or cement bond logs; and
 - D) Any other test required by permit condition.
- 3) Prior to well closure, the well must be flushed with a buffer fluid.
- 4) Upon closure, a Class I hazardous waste injection well must be plugged with cement in a manner that will not allow the movement of fluids into or between USDWs.
- 5) Placement of the cement plugs must be accomplished by one of the following:

- A) The Balance Method;
 - B) The Dump Bailer Method;
 - C) The Two-Plug Method; or
 - D) An alternative method, specified by permit condition, that will reliably provide a comparable level of protection.
- 6) Each plug used must be appropriately tagged and tested for seal and stability before closure is completed.
- 7) The well to be closed must be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by permit condition, prior to the placement of the cement plug(s).

BOARD NOTE: Derived from 40 CFR 146.71, as added at 53 Fed. Reg. 28153, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.172 Post-Closure Care

- a) The owner or operator of a Class I hazardous waste injection well shall prepare, maintain and comply with a plan for post-closure care that meets the requirements of subsection (b) and is specified by permit condition. The obligation to implement the post-closure plan survives the termination of a permit or the cessation of injection activities. The requirement to maintain an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.
- 1) The owner or operator shall submit the plan as a part of the permit application and, upon approval by the Agency, such plan must be a condition of any permit issued.
 - 2) The owner or operator shall submit any proposed significant revision to the plan as appropriate over the life of the well, but no later than the date of the closure report required under Section 730.171(c).
 - 3) The plan must assure financial responsibility as required in Section 730.173.

- 4) The plan must include the following information:
 - A) The pressure in the injection zone before injection began;
 - B) The anticipated pressure in the injection zone at the time of closure;
 - C) The predicted time until pressure in the injection zone decays to the point that the well's cone of influence no longer intersects the base of the lowermost USDW;
 - D) Predicted position of the waste front at closure;
 - E) The status of any cleanups required under Section 730.164; and
 - F) The estimated cost of proposed post-closure care.
 - 5) At the request of the owner or operator, or on its own initiative, the Agency may modify the post-closure plan after submission of the closure report following the procedures in 35 Ill. Adm. Code 705.128.
- b) The owner or operator shall:
- 1) Continue and complete any cleanup action required under Section 730.164, if applicable;
 - 2) Continue to conduct any groundwater monitoring required under the permit until pressure in the injection zone decays to the point that the well's cone of influence no longer intersects the base of the lowermost USDW. The Agency shall extend the period of post-closure monitoring if it determines that the well may endanger a USDW;
 - 3) Submit a survey plat to the local zoning authority designated by permit condition. The plat must indicate the location of the well relative to permanently surveyed benchmarks. A copy of the plat must be submitted to USEPA, Region V;
 - 4) Notify the Illinois Department of Mines and Minerals as to the depth and location of the well and the confining zone; and
 - 5) Retain, for a period of three years following well closure, records reflecting the nature, composition and volume of all injected fluids. Owners or

operators shall deliver the records to the Agency at the conclusion of the retention period.

- c) Each owner of a Class I hazardous waste injection well, and the owner of the surface or subsurface property on or in which a Class I hazardous waste injection well is located, shall record a notation on the deed to the facility property or on some other instrument which is normally examined during title search that will in perpetuity provide any potential purchaser of the property the following information:
- 1) The fact that land has been used to manage hazardous waste;
 - 2) The names of the Illinois Department of Mines and Minerals and the local zoning authority with which the plat was filed, as well as the address of Region V Environmental Protection Agency; and
 - 3) The type and volume of waste injected, the injection interval or intervals into which it was injected and the period over which injection occurred.
- d) In addition to the requirements stated in this Section, each owner of a Class I hazardous waste injection well must comply with the Illinois Responsible Property Transfer Act of 1988, Ill. Rev. Stat. 1987 ch. 30, par. 901 (P.A. 85-1228, effective January 1, 1989).

BOARD NOTE: Derived from 40 CFR 146.72, as added at 53 Fed. Reg. 28152, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 730.173 Financial Responsibility for Post-Closure Care

The owner or operator shall demonstrate and maintain financial responsibility for post-closure care by using a trust fund, surety bond, letter of credit, financial test, insurance or corporate guarantee that meets the specifications for the mechanisms and instruments revised as appropriate to cover closure and post-closure care in 35 Ill. Adm. Code 704.Subpart G. The amount of the funds available must be no less than the amount identified in Section 730.172(a)(4)(F). The obligation to maintain financial responsibility for post-closure care survives the termination of a permit or the cessation of injection. The requirement to maintain financial responsibility is enforceable whether or not the requirement is a condition of the permit.

BOARD NOTE: Derived from 40 CFR 146.73, as added at 53 Fed. Reg. 28154, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER d: UNDERGROUND INJECTION CONTROL AND UNDERGROUND
STORAGE TANK PROGRAMS

PART 738
HAZARDOUS WASTE INJECTION RESTRICTIONS

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AUTHORITY: Implementing Section 13 and 22.4 and authorized by
Section 27 of the Environmental Protection Act (Ill. Rev. Stat.
1987, ch. 111 1/2, pars. 1013, 1022.4 and 1027).

SOURCE: Adopted in R89-2 at 13 Ill. Reg. ,
effective).

SUBPART A: GENERAL

Section 738.101 Purpose Scope and Applicability

- a) This Part identifies hazardous wastes that are restricted from disposal into Class I hazardous waste injection 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 Section 738.104; or
 - 2) If an adjusted standard has been granted in response to a petition filed under Section 738.120; or
 - 3) If the waste is generated by a conditionally exempt small quantity generator, as defined in 35 Ill. Adm. Code 721.105.

BOARD NOTE: Derived from 40 CFR 148.1 (1988), as amended at 53 Fed. Reg. 28154, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.102 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.

BOARD NOTE: Derived from 40 CFR 148.2 (1988), as added at 53 Fed. Reg. 28155, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.103 Dilution Prohibited as a Substitute for Treatment

The prohibition of 35 Ill. Adm. Code 728.103 shall apply to owners or operators of Class I hazardous waste injection wells.

BOARD NOTE: Derived from 40 CFR 148.3 (1988), as added at 53 Fed. Reg. 28155, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.104 Case-by-Case Extensions of an Effective Date

The owner or operator of a Class I hazardous waste injection well may submit an application to USEPA for an extension of the effective date of any applicable prohibition established under Subpart B. (See 35 Ill. Adm. Code 728.105.)

BOARD NOTE: Derived from 40 CFR 148.4 (1988), as added at 53 Fed. Reg. 28155, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.105 Waste Analysis

Generators of hazardous wastes that are disposed of into Class I injection wells must comply with the applicable requirements of 35 Ill. Adm. Code 728.107(a) and (b). Owners or operators of Class I hazardous waste injection wells must comply with the applicable requirements of 35 Ill. Adm. Code 728.107(c).

BOARD NOTE: Derived from 40 CFR 148.5 (1988), as added at 53 Fed. Reg. 28155, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

SUBPART B: PROHIBITIONS ON INJECTION

Section 738.110 Waste Specific Prohibitions - Solvent Wastes

- a) The spent solvent wastes specified in 35 Ill. Adm. Code 721.131 as EPA Hazardous Waste Nos. F001, F002, F003, F004, and F005 are prohibited from underground injection unless the solvent waste is a solvent-water mixture or solvent-containing sludge containing less than 1 percent total of the following F001 through F005 solvent constituents:

- Acetone
- n-Butyl alcohol
- Carbon disulfide
- Carbon tetrachloride
- Chlorobenzene
- Cresols and cresylic acid
- Cyclohexanone
- 1,2-Dichlorobenzene
- Ethyl acetate
- Ethyl benzene
- Ethyl ether
- Isobutanol
- Methanol
- Methylene chloride
- Methylene chloride (from the pharmaceutical

industry)
Methyl ethyl ketone
Methyl isobutyl ketone
Nitrobenzene
Pyridine
Tetrachloroethylene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloro-1,2,2-trifluoroethane
Trichloroethylene
Trichlorofluoromethane
Xylene

- b) Effective August 8, 1990, all spent F001 through F005 solvent wastes containing less than 1 percent total F001 through F005 solvent constituents listed in subsection (c)(4) are prohibited from injection.
- c) The requirements of subsections (a) or (b) do not apply:
- 1) If the wastes meet or are treated to meet the standards of 35 Ill. Adm. Code 728.141; or
 - 2) If an adjusted standard has been granted in response to a petition under Subpart C; or
 - 3) During the period of extension of the applicable effective date if an extension has been granted under Section 738.104; or
 - 4) During the period the waste has been granted an adjusted treatment standard under 35 Ill. Adm. Code 728.144.

BOARD NOTE: Derived from 40 CFR 148.10 (1988), as added at 53 Fed. Reg. 28155, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.111 Waste Specific Prohibitions - Dioxin-Containing Wastes

- a) The dioxin-containing wastes specified in 35 Ill. Adm. Code 721.131 as EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028 are prohibited from underground injection.
- b) The requirements of subsection (a) do not apply:
- 1) If the wastes meet or are treated to meet the standards of 35 Ill. Adm. Code 728.141; or

- 2) If an adjusted standard has been granted in response to a petition under Subpart C; or
- 3) During the period of extension of the applicable effective date of an extension has been granted under Section 738.104; or
- 4) During the period the waste has been granted an adjusted treatment standard under 35 Ill. Adm. Code 728.144.

BOARD NOTE: Derived from 40 CFR 148.11 (1988), as added at 53 Fed. Reg. 28155, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.112 Waste Specific Prohibitions - California list
Wastes

- a) The hazardous wastes listed in 35 Ill. Adm. Code 728.132 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 1000 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:
 - A) Arsenic or compounds (as As) 500 mg/l;
 - B) Cadmium or compounds (as Cd) 100 mg/l;
 - C) Chromium (VI) or compounds (as Cr VI) 500 mg/l;
 - D) Lead or compounds (as Pb) 500 mg/l;
 - E) Mercury or compounds (as Hg) 20 mg/l;
 - F) Nickel or compounds (as Ni) 134 mg/l;
 - G) Selenium or compounds (as Se) 100 mg/l; and

- H) Thallium or compounds (as Tl) 130 mg/l;
 - 3) Liquid hazardous waste having a pH less than or equal to two (2.0); and
 - 4) Hazardous wastes containing halogenated organic compounds in total concentration less than 10,000 mg/kg but greater than or equal to 1000 mg/kg.
- c) The requirements of subsections (a) and (b) do not apply:
- 1) If the wastes meet or are treated to meet the applicable standards specified in 35 Ill. Adm. Code 728.Subpart D; or
 - 2) If an adjusted standard has been granted in response to a petition under Subpart C; or
 - 3) During the period of extension of the applicable effective date, if an extension is granted under Section 738.104.

BOARD NOTE: Derived from 40 CFR 148.12 (1988), as added at 53 Fed. Reg. 30918, August 16, 1988, and amended at 53 Fed. Reg. 41602, October 24, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.114 Waste Specific Prohibitions - First Third Wastes

- a) Effective August 8, 1990, the wastes specified in 35 Ill. Adm. Code 721.132 as EPA Hazardous Waste numbers K049, K050, K051, K052, K062, K071 and K104 are prohibited from underground injection.
- b) The requirements of subsection (a) do not apply:
 - 1) If the wastes meet or are treated to meet the applicable standards specified in 35 Ill. Adm. Code 728.Subpart D; or
 - 2) If an adjusted standard has been granted in response to a petition under Subpart C; or
 - 3) During the period of extension of the applicable effective date, if an extension is granted under Section 738.104.

BOARD NOTE: Derived from 40 CFR 148.14 (1988), as added at 53 Fed. Reg. 30918, August 16, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

SUBPART C: PETITION STANDARDS AND PROCEDURES

Section 738.120 Petitions to allow Injection of a Prohibited Waste

- a) Any person seeking an exemption from a prohibition under Subpart B for the injection of a restricted hazardous waste into an injection well or wells shall submit a petition for an adjusted standard to the Board, pursuant to 35 Ill. Adm. Code 106.Subpart G, 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 site(s) and the physiochemical nature of the waste stream(s) are such that reliable predictions can be made that:
 - A) Fluid movement conditions are such that the injected fluids will not migrate within 10,000 years:
 - i) Vertically upward out of the injection zone; or
 - ii) Laterally within the injection zone to a point of discharge or interface with an Underground Source of Drinking Water (USDW) as defined in 35 Ill. Adm. Code 730; or
 - B) 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:
 - A) Demonstrated that the injection well's area of review complies with the substantive requirements of 35 Ill. Adm. Code 730.163;
 - B) Located, identified, and ascertained the condition of all wells within the injection

well's area of review (as specified in 35 Ill. Adm. Code 730.163) that penetrate the injection zone or the confining zone by use of a protocol acceptable to the Board that meets the substantive requirements of 35 Ill. Adm. Code 730.164;

- C) Submitted a corrective action plan that meets the substantive requirements of 35 Ill. Adm. Code 730.164, the implementation of which shall become a condition of any adjusted standard granted; and
- D) 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 Board may require the owner or operator to perform the tests again and submit the results of the new tests.

BOARD NOTE: The requirements of subsection 738.120(a)(2) need not be incorporated in a permit at the time the Board grants an adjusted standard.

- b) A demonstration under Subsection 738.120(a)(1)(A) must 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 Subsection 738.120(a)(1)(B) must 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 that reduce the toxicity or mobility of the wastes, the implementation of which will become a condition of any adjusted standard, must be utilized; or
 - 2) A monitoring plan, the implementation of which will become a condition of any adjusted standard, must

be utilized to enhance confidence in one or more aspects of the demonstration.

- e) Any person who has been granted an adjusted standard pursuant to this Section may submit a petition for reissuance of the adjusted standard to include an additional restricted waste or wastes or to modify any conditions placed on that adjusted standard by the Board. The Board will reissue the adjusted standard if the petitioner complies with subsections (a), (b) and (c).
- f) Any person who has been granted an adjusted standard pursuant to this section may submit a petition to modify that adjusted standard to include an additional (hazardous) waste or wastes. The Board may grant the modification if it 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.

BOARD NOTE: Derived from 40 CFR 148.20 (1988), as added at 53 Fed. Reg. 28155, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.121 Required Information to Support Petitions

- a) Information submitted in support of a Section 738.120 petition must meet the following criteria:
 - 1) All data from waste analyses and any new testing performed by the petitioner must be approved by the Board and must provide data that are accurate, reproducible, and performed in accordance with quality assurance standards;
 - 2) A) All estimation and monitoring techniques must be approved by the Board; and
B) The petition must identify all applicable USEPA-certified test protocols in existence at the time the estimation and monitoring was performed;
 - 3) Predictive models must have been verified and validated, must be appropriate for the specific site, wastestreams, and injection conditions of the operation, and must be calibrated for existing sites where sufficient data are available;

- 4) A quality assurance and quality control plan addressing all aspects of the demonstration must be provided to and approved by the Board;
 - 5) Reasonably conservative values must 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 must 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 must then be based on conservative assumptions identified in the analysis.
- b) Any petitioner under Section 738.120(a)(1)(A) 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 subsection 738.121(b), any petitioner under Section 738.120(a)(1)(B) of this Part 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
 - 2) Results of laboratory experiments verifying the waste transformation.

BOARD NOTE: Derived from 40 CFR 148.21 (1988), as added at 53 Fed. Reg. 28156, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.122 Submission, Review and Approval or Denial of
Petitions

- a) Any petition submitted to the Board, pursuant to Section 738.120(a) of this Part, must include:
- 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 fully describing the chemical and physical characteristics of the subject wastes;
 - 3) Such additional information as the Board requires to support the petition under Section 738.120 and Section 738.121 of this Part; and
 - 4) This statement signed by the petitioner or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that submitted 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.

- b) The Board will provide public notice and an opportunity for public comment in accordance with the procedures in 35 Ill. Adm. Code 106.Subpart G.
- c) An adjusted standard will apply only to the underground injection of the specific restricted waste or wastes identified in the petition into a Class I hazardous waste injection well or wells specifically identified in the petition (unless the adjusted standard is modified or reissued pursuant to Section 738.120(e) or (f)).
- d) Upon request by any petitioner who obtains an adjusted standard for a well under this Subpart, the Agency shall initiate and reasonably expedite the necessary procedures to issue or reissue a permit or permits for the hazardous waste well or wells covered by the adjusted standard for a term not to exceed ten years.
- e) Each adjusted standard granted under this Part is subject to the following condition, whether or not this condition appears as part of the adjusted standard, and the Board will include this condition as part of each adjusted standard granted: "This adjusted standard does

not affect the enforceability of any provisions of the Environmental Protection Act, Board rules, or other laws, except to the extent that its provisions expressly state otherwise."

BOARD NOTE: Derived from 40 CFR 148.22 (1988), as added at 53 Fed. Reg. 28156, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.123 Review of Adjusted Standards

- a) 1) When considering whether to reissue a permit for the operation of a Class I hazardous waste injection well, the Agency shall review any adjusted standard(s) granted by the Board pursuant to this Subpart.
 - 2) If the Agency determines that new information shows that the basis for granting the adjusted standard may no longer be valid, the Agency shall request in writing that the permittee submit a petition to the Board to modify the adjusted standard.
 - 3) All petitions requested by the Agency pursuant to subsection (a)(2) must be filed pursuant to section 738.120(f). Such a petition may seek reaffirmation of the adjusted standard without modification.
 - 4) A) If the permittee fails to file a petition requested by the Agency under subsection (a)(2), the Agency may petition the Board for reconsideration of any adjusted standard granted under this Part at any time during the effectiveness of that adjusted standard, the limitation periods of 35 Ill. Adm. Code 101.300 and 101.301 notwithstanding.
 - B) i) The Board may conduct a plenary review of the substance of any adjusted standard on reconsideration to the same extent that it would review a new petition for an adjusted standard.
 - ii) The Board may treat a motion for reconsideration of an adjusted standard as a new petition under Section 738.120 and require that the full requirements of that section and of 35 Ill. Adm. Code 106.Subpart G apply to the proceeding, with the Agency acting as the petitioner.
- b) Whenever the Board determines that the basis for

approval of a petition may no longer be valid, the Board will require a new demonstration in accordance with Section 738.120.

BOARD NOTE: Derived from 40 CFR 148.23 (1988), as added at 53 Fed. Reg. 28157, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)

Section 738.124 Termination of Approved Petition

- a) 1) A) Any person may file an enforcement action against an owner or operator of an underground injection well pursuant to Section 33 of the Illinois Environmental Protection Act, Ill. Rev. Stat. ch. 111 1/2, par. 1033, for any violation of the Act or Board rules, notwithstanding the existence of any adjusted standard.
- B) The Agency may petition the Board for reconsideration of any adjusted standard at any time during the effectiveness of that adjusted standard, the limitation periods of 35 Ill. Adm. Code 101.300 and 101.301 notwithstanding.
- 2) In any action under subsection (a)(1), if the Board finds a violation of the Act or Board regulations, the Board may terminate any adjusted standard granted under Section 738.120 for any of the following causes:
 - A) Noncompliance by the owner or operator with any condition of the adjusted standard;
 - B) The owner or operator'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
 - C) A determination that new information shows that the basis for approval of the petition is no longer valid.
- b) In any action under subsection (a)(1), the Board will terminate an adjusted standard granted under Section 738.120 for the following cases:
 - 1) The petitioner's willful withholding during the review and approval of the petition of facts directly and materially relevant to the Board'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 adjusted standard, except that the Board, may at its discretion decide not to terminate where:
 - A) 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
 - B) The requirements of 35 Ill. Adm. Code 730.167 are satisfied.

BOARD NOTE: Derived from 40 CFR 148.24 (1988), as added at 53 Fed. Reg. 28157, July 26, 1988.

(Source: Added at 13 Ill. Reg. ,
effective)