

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER i: SOLID WASTE AND SPECIAL WASTE HAULING

PART 811
STANDARDS FOR NEW SOLID WASTE LANDFILLS

Section	
811.101	Scope and Applicability
811.102	Location Standards
811.103	Surface Water Drainage
811.104	Survey Controls
811.105	Compaction
811.106	Daily Cover
811.107	Operating Standards
811.108	Salvaging
811.109	Boundary Control
811.110	Closure and Written Closure Plan
811.111	Postclosure Maintenance
811.112	Recordkeeping Requirements for MSWLF Units
811.113	Electronic Reporting

SUBPART B: INERT WASTE LANDFILLS

Section	
811.201	Scope and Applicability
811.202	Determination of Contaminated Leachate
811.203	Design Period
811.204	Final Cover
811.205	Final Slope and Stabilization
811.206	Leachate Sampling
811.207	Load Checking

SUBPART C: PUTRESCIBLE AND CHEMICAL WASTE LANDFILLS

Section	
811.301	Scope and Applicability
811.302	Facility Location
811.303	Design Period
811.304	Foundation and Mass Stability Analysis
811.305	Foundation Construction
811.306	Liner Systems
811.307	Leachate Drainage System
811.308	Leachate Collection System

811.309	Leachate Treatment and Disposal System
811.310	Landfill Gas Monitoring
811.311	Landfill Gas Management System
811.312	Landfill Gas Processing and Disposal System
811.313	Intermediate Cover
811.314	Final Cover System
811.315	Hydrogeologic Site Investigations
811.316	Plugging and Sealing of Drill Holes
811.317	Groundwater Impact Assessment
811.318	Design, Construction, and Operation of Groundwater Monitoring Systems
811.319	Groundwater Monitoring Programs
811.320	Groundwater Quality Standards
811.321	Waste Placement
811.322	Final Slope and Stabilization
811.323	Load Checking Program
811.324	Corrective Action Measures for MSWLF Units
811.325	Selection of remedy for MSWLF Units
811.326	Implementation of the corrective action program at MSWLF Units

SUBPART D: MANAGEMENT OF SPECIAL WASTES AT LANDFILLS

Section	
811.401	Scope and Applicability
811.402	Notice to Generators and Transporters
811.403	Special Waste Manifests
811.404	Identification Record
811.405	Recordkeeping Requirements
811.406	Procedures for Excluding Regulated Hazardous Wastes

SUBPART E: CONSTRUCTION QUALITY ASSURANCE PROGRAMS

Section	
811.501	Scope and Applicability
811.502	Duties and Qualifications of Key Personnel
811.503	Inspection Activities
811.504	Sampling Requirements
811.505	Documentation
811.506	Foundations and Subbases
811.507	Compacted Earth Liners
811.508	Geomembranes
811.509	Leachate Collection Systems

SUBPART G: FINANCIAL ASSURANCE

Section	
811.700	Scope, Applicability and Definitions

811.701	Upgrading Financial Assurance
811.702	Release of Financial Institution
811.703	Application of Proceeds and Appeals
811.704	Closure and Post-Closure Care Cost Estimates
811.705	Revision of Cost Estimate
811.706	Mechanisms for Financial Assurance
811.707	Use of Multiple Financial Mechanisms
811.708	Use of a Financial Mechanism for Multiple Sites
811.709	Trust Fund for Unrelated Sites
811.710	Trust Fund
811.711	Surety Bond Guaranteeing Payment
811.712	Surety Bond Guaranteeing Performance
811.713	Letter of Credit
811.714	Closure Insurance
811.715	Self-Insurance for Non-Commercial Sites
811.716	Local Government Financial Test
811.717	Local Government Guarantee
811.718	Discounting
811.719	Corporate Financial Test
811.720	Corporate Guarantee

811.APPENDIX A Financial Assurance Forms

811.ILLUSTRATION A	Trust Agreement
811.ILLUSTRATION B	Certificate of Acknowledgment
811.ILLUSTRATION C	Forfeiture Bond
811.ILLUSTRATION D	Performance Bond
811.ILLUSTRATION E	Irrevocable Standby Letter of Credit
811.ILLUSTRATION F	Certificate of Insurance for Closure and/or Post-Closure Care or Corrective Action
811.ILLUSTRATION G	Owner's or Operator's Bond Without Surety
811.ILLUSTRATION H	Owner's or Operator's Bond With Parent Surety
811.ILLUSTRATION I	Letter from Chief Financial Officer

811.APPENDIX B Section-by-Section correlation between the Standards of the RCRA Subtitle D MSWLF regulations and the Board's nonhazardous waste landfill regulations.

811.APPENDIX C List of Leachate Monitoring Parameters

AUTHORITY: Implementing Sections 7.2, 21, 21.1, 22, 22.17, and 22.40 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/7.2, 21, 21.1, 22, 22.17, 22.40, and 27].

SOURCE: Adopted in R88-7 at 14 Ill. Reg. 15861, effective September 18, 1990; amended in R92-19 at 17 Ill. Reg. 12413, effective July 19, 1993; amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994; expedited correction at 18 Ill. Reg. 7504, effective July 19, 1993; amended in R90-26 at 18 Ill. Reg. 12481, effective August 1, 1994; amended in R95-13 at 19 Ill.

Reg. 12257, effective August 15, 1995; amended in R96-1 at 20 Ill. Reg. 12000, effective August 15, 1996; amended in R97-20 at 21 Ill. Reg. 15831, effective November 25, 1997; amended in R98-9 at 22 Ill. Reg. 11491, effective June 23, 1998; amended in R99-1 at 23 Ill. Reg. 2794, effective February 17, 1999; amended in R98-29 at 23 Ill. Reg. 6880, effective July 1, 1999; amended in R04-5/R04-15 at 28 Ill. Reg. 9107, effective June 18, 2004; amended in R05-1 at 29 Ill. Reg. 5044, effective March 22, 2005; amended in R06-5/R06-6/R06-7 at 30 Ill. Reg. 4136, effective February 23, 2006; amended in R06-16/R06-17/R06-18 at 31 Ill. Reg. 1435, effective December 20, 2006; amended in R07-8 at 31 Ill. Reg. 16172, effective November 27, 2007; amended in R10-9 at 35 Ill. Reg. 10842, effective June 22, 2011; amended in R10-09(A) at 35 Ill. Reg. 18882, effective October 24, 2011; amended in R14-1/R14-2/R14-3 at 38 Ill. Reg. 7259, effective March 13, 2014; amended in R17-14/R17-15/R18-12/R18-31 at 42 Ill. Reg. 21330, effective November 19, 2018; amended in R20-8/R20-16 at 44 Ill. Reg. 15577, effective September 3, 2020; amended in R25-23 at 49 Ill. Reg. 12769, effective September 23, 2025.

SUBPART A: GENERAL STANDARDS FOR ALL LANDFILLS

Section 811.101 Scope and Applicability

- a) The standards of this Part apply to all new landfills, except as otherwise provided in 35 Ill. Adm. Code 816 and 817, and except those regulated pursuant to 35 Ill. Adm. Code 700 through 749. Subpart A contains general standards applicable to all new landfills. Subpart B contains additional standards for new landfills which dispose of only inert wastes. Subpart C contains additional standards for new landfills which dispose of chemical and putrescible wastes.
- b) All general provisions of 35 Ill. Adm. Code 810 apply to this Part.
- c) Standards for Municipal Solid Waste landfills
 - 1) The standards of this Part also apply to all new MSWLF units, as defined at 35 Ill. Adm. Code 810.103. The standards for the new MSWLF units include:
 - A) The standards applicable to new landfills pursuant to subsection (a); and
 - B) The standards adopted in this part that are identical-in-substance to the federal regulations promulgated by the U.S. Environmental Protection Agency pursuant Sections 4004 and 4010 of the RCRA relating to MSWLF program. Such standards are individually indicated as applicable to MSWLF units.
 - 2) The Appendix Table 811.Appendix B provides a Section-by-Section correlation between the requirements of the federal MSWLF regulations at 40 CFR 258 (1992) and the requirements of this Part.

- 3) An owner or operator of a MSWLF unit shall also comply with any other applicable Federal rules, laws, regulations, or other requirements.

BOARD NOTE: Subsection (c)(3) is derived from 40 CFR 258.3 (1992).

(Source: Amended at 20 Ill. Reg. 12000, effective August 15, 1996)

Section 811.102 Location Standards

- a) The facility shall meet all requirements under the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.).
- b) The facility shall not restrict the flow of a 100-year flood, result in washout of solid waste from the 100-year flood, or reduce the temporary water storage capacity of the 100-year floodplain, unless measures are undertaken to provide alternative storage capacity such as lagoons, holding tanks, or provision of drainage around structures at the facility.
- c) The facility shall not be located in areas where it may pose a threat of harm or destruction to the features for which an irreplaceable historic, or archaeological site was listed pursuant to the National Historic Preservation Act (16 U.S.C. 470 et seq.) or the Illinois Historic Preservation Act (Ill. Rev. Stat. 1989, ch. 127, par. 133d1 et seq.) for which a Natural Landmark was designated by the National Park Service or the Illinois State Historic Preservation Officer, or for which a natural area was designated as a Dedicated Illinois Nature Preserve pursuant to the Illinois Natural Area Preservation Act (Ill. Rev. Stat. 1989, ch. 105 par. 701 et seq.).
- d) The facility shall not be located in areas where it may jeopardize the continued existence of any designated endangered species, result in the destruction or adverse modification of the critical habitat listed for such species, or cause or contribute to the taking of any endangered or threatened species of plant, fish or wildlife listed pursuant to the Endangered Species Act 16 U.S.C. 1531 et seq., or the Illinois Endangered Species Protection Act (Ill. Rev. Stat. 1989, ch. 8, par. 331 et seq.).
- e) The facility shall not cause a violation of Section 404 of the Clean Water Act (33 U.S.C. 1344).
- f) The facility shall not cause a violation of any requirements implementing an area-wide or statewide water quality management plan for nonpoint source pollution that has been approved under Section 208 of the Clean Water Act (33 U.S.C 1288).

Section 811.103 Surface Water Drainage

a) Runoff from Disturbed Areas

- 1) Runoff from disturbed areas resulting from precipitation events less than or equal to the 25-year, 24-hour precipitation event that is discharged to waters of the State must meet the requirements of 35 Ill. Adm. Code 304.
- 2) All discharges of runoff from disturbed areas to waters of the State must be permitted by the Agency in accordance with 35 Ill. Adm. Code 309.
- 3) All treatment facilities must be equipped with bypass outlets designed to pass the peak flow of runoff from the 100-year, 24-hour precipitation event without damage to the treatment facilities or surrounding structures.
- 4) All surface water control structures must be operated until the final cover is placed and erosional stability is provided by the vegetative or other cover meeting the requirements of Section 811.205 or 811.322.
- 5) All discharge structures must be designed to have flow velocities that will not cause erosion and scouring of the natural or constructed lining, i.e., bottom and sides, of the receiving stream channel.

b) Diversion of Runoff from Undisturbed Areas

- 1) Runoff from undisturbed areas must be diverted around disturbed areas, unless the operator shows that it is impractical based on site-specific conditions or unless the Agency has issued a research, development, and demonstration (RD&D) permit that provides otherwise pursuant to 35 Ill. Adm. Code 813.112(a)(1), relating to run-on control systems, and that permit is in effect.
- 2) Diversion facilities must be designed to prevent runoff from the 25-year, 24-hour precipitation event from entering disturbed areas, unless the Agency has issued an RD&D permit that provides otherwise pursuant to 35 Ill. Adm. Code 813.112(a)(1), relating to run-on control systems, and that permit is in effect.
- 3) Runoff from undisturbed areas that becomes commingled with runoff from disturbed areas must be handled as runoff from disturbed areas and treated in accordance with subsection (a).
- 4) All diversion structures must be designed to have flow velocities that will not cause erosion and scouring of the natural or constructed lining, i.e., the bottom and sides, of the diversion channel and downstream channels.

- 5) All diversion structures must be operated until the final cover is placed and erosional stability is provided by the vegetative or other cover that meets the requirements of Section 811.205 or 811.322.

BOARD NOTE: Those segments of subsections (b)(1) and (b)(2) that relate to RD&D permits are derived from 40 CFR 258.4(a)(1) (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.104 Survey Controls

- a) The boundaries of all waste disposal units, property boundaries, disturbed areas, and the permit area for facilities subject to the requirements of Section 21 of the Environmental Protection Act (Act) (Ill. Rev. Stat. 1989, ch. 111 1/2, par. 1021) shall be surveyed and marked by a professional land surveyor.
- b) All stakes and monuments shall be clearly marked for identification.
- c) All stakes and monuments shall be inspected annually and surveyed no less frequently than once in five years by a professional land surveyor, who shall also replace and resurvey any missing or damaged stakes and monuments discovered during an inspection.
- d) Control monuments shall be established to check vertical elevations. The control monuments shall be established and maintained by a professional land surveyor.

Section 811.105 Compaction

All waste shall be deposited at the lowest part of the active face, and compacted to the highest achievable density necessary to minimize void space and settlement unless precluded by extreme weather conditions. The Agency may approve an alternative location for placement of wastes, if the operator demonstrates that it is required under the conditions existing at the site or for reasons of safety.

Section 811.106 Daily Cover

- a) A uniform layer of at least 0.15 meter (six inches) of clean soil material must be placed on all exposed waste by the end of each day of operation.
- b) Alternative materials or procedures, including the removal of daily cover prior to additional waste placement, may be used, provided that the alternative materials or procedures achieve equivalent or superior performance to the requirements of subsection (a) in the following areas:

- 1) Prevention of blowing debris;
 - 2) Minimization of access to the waste by vectors;
 - 3) Minimization of the threat of fires at the open face; and
 - 4) Minimization of odors.
- c) Any alternative frequencies for cover requirements to those set forth in subsections (a) and (b) for any owner or operator of an MSWLF that disposes of 20 tons (18 megagrams) of municipal solid waste per day or less, based on an annual average, must be established by an adjusted standard pursuant to Section 28.1 of the Act and Subpart D of 35 Ill. Adm. Code 104. Any alternative requirements established under this subsection (c) must fulfill the following requirements:
- 1) They must consider the unique characteristics of small communities;
 - 2) They must take into account climatic and hydrogeologic conditions; and
 - 3) They must be protective of human health and the environment.

BOARD NOTE: This subsection (c) is derived from 40 CFR 258.21(d) (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.107 Operating Standards

- a) Phasing of Operations
- 1) Waste must be placed in a manner and at such a rate that mass stability is provided during all phases of operation. Mass stability means that the mass of waste deposited will not undergo settling or slope failure that interrupts operations at the facility or causes damage to any of the various landfill operations or structures, such as the liner, leachate or drainage collection system, gas collection system, or monitoring system.
 - 2) The phasing of operations at the facility must be designed in such a way as to allow the sequential construction, filling, and closure of discrete units or parts of units.
 - 3) The operator must design and sequence the waste placement operation in each discrete unit or parts of units, in conjunction with the overall operations of the facility, so as to shorten the operational phase and allow wastes to be built up to the planned final grade.

- b) Size and Slope of Working Face
 - 1) The working face of the unit must be no larger than is necessary, based on the terrain and equipment used in waste placement, to conduct operations in a safe and efficient manner.
 - 2) The slopes of the working face area must be no steeper than two to one (horizontal to vertical) unless the waste is stable at steeper slopes.
- c) Equipment. Equipment must be maintained and available for use at the facility during all hours of operation, so as to achieve and maintain compliance with the requirements of this Part.
- d) Utilities. All utilities, including but not limited to heat, lights, power and communications equipment, necessary for safe operation in compliance with the requirements of this Part must be available at the facility at all times.
- e) Maintenance. The operator must maintain and operate all systems and related appurtenances and structures in a manner that facilitates proper operations in compliance with this Part.
- f) Open Burning. Open burning is prohibited, except in accordance with 35 Ill. Adm. Code 200 through 245.
- g) Dust Control. The operator must implement methods for controlling dust, so as to prevent wind dispersal of particulate matter.
- h) Noise Control. The facility must be designed, constructed, and maintained to minimize the level of equipment noise audible outside the facility. The facility must not cause or contribute to a violation of 35 Ill. Adm. Code 900 through 905 or of Section 24 of the Act.
- i) Vector Control. The operator must implement measures to control the population of disease and nuisance vectors.
- j) Fire Protection. The operator must institute fire protection measures including, but not limited to, maintaining a supply of water onsite and radio or telephone access to the nearest fire department.
- k) Litter Control
 - 1) The operator must patrol the facility daily to check for litter accumulation. All litter must be collected and placed in the fill or in a secure, covered container for later disposal.
 - 2) The facility must not accept solid waste from vehicles that do not utilize devices such as covers or tarpaulins to control litter, unless the nature of

the solid waste load is such that it cannot cause any litter during its transportation to the facility.

- l) Mud Tracking. The facility must implement methods, such as use of wheel washing units, to prevent tracking of mud by hauling vehicles onto public roadways.
- m) Liquids Restrictions for MSWLF Units
 - 1) Bulk or noncontainerized liquid waste may not be placed in MSWLF units, unless one of the following conditions is true:
 - A) The waste is household waste other than septic waste;
 - B) The waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit, whether it is a new or existing MSWLF unit or lateral expansion, is designed with a composite liner and leachate collection system that complies with the requirements of Sections 811.306 through 811.309; or
 - C) The Agency has issued an RD&D permit pursuant to 35 Ill. Adm. Code 813.112(a)(2) that allows the placement of noncontainerized liquids in the landfill, and that permit is in effect.
 - 2) Containers holding liquid waste may not be placed in an MSWLF unit, unless one of the following conditions is true:
 - A) The container is a small container similar in size to that normally found in household waste;
 - B) The container is designed to hold liquids for use other than storage; or
 - C) The waste is household waste.
 - 3) For purposes of this Section, the following definitions apply:
 - A) “Liquid waste” means any waste material that is determined to contain “free liquids”, as defined by Method 9095B (Paint Filter Liquids Test) (Revision 2, November 2004), as described in “Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods”, incorporated by reference in 35 Ill. Adm. Code 810.104.
 - B) “Gas condensate” means the liquid generated as a result of gas recovery processes at the MSWLF unit.

BOARD NOTE: Subsections (m)(1) through (m)(3) are derived from 40 CFR 258.28 (2017). Subsection (m)(1)(C) relating to RD&D permits is derived from 40 CFR 258.4(a)(2) (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.108 Salvaging

- a) All salvaging operations shall in no way interfere with the operation of the waste disposal facility, result in a violation of any standard in this Part or of 35 Ill. Adm. Code 812 through 815, or delay the construction or interfere in the operation of the liner, leachate collection system, daily, intermediate or final cover and any monitoring devices.
- b) All salvaging operations shall be performed in a safe and sanitary manner in compliance with the requirements of this Part.
- c) Salvageable materials:
 - 1) May be accumulated onsite by a landfill operator, provided they are managed so as not to create a nuisance, harbor vectors, cause malodors, or create an unsightly appearance; and
 - 2) May not be accumulated on-site for longer than seven days, unless, pursuant to Section 39 of the Act, the Agency has issued a permit with alternative conditions for management of such materials in compliance with subsection (c)(1).

Section 811.109 Boundary Control

- a) Access to the open face area of the unit and all other areas within the boundaries of the facility shall be restricted to prevent unauthorized entry at all times.
- b) A permanent sign shall be posted at the entrance to the facility stating that disposal of hazardous waste is prohibited and, if the landfill is approved for accepting special wastes, that special wastes must be permitted by the Agency and accompanied by a manifest and an identification record along with the following information:
 - 1) Permit number, if the facility is subject to the permit requirements of Section 21 of the Act.
 - 2) Hours of operation;
 - 3) The penalty for unauthorized trespassing and dumping;

- 4) The name and telephone number of the appropriate emergency response agencies who shall be available to deal with emergencies and other problems, if different than the operator; and
- 5) The name, address and telephone number of the company operating the facility.

Section 811.110 Closure and Written Closure Plan

- a) The final slopes and contours must be designed to complement and blend with the surrounding topography of the proposed final land use of the area.
- b) All drainage ways and swales must be designed to safely pass the runoff from the 100-year, 24-hour precipitation event without scouring or erosion.
- c) The final configuration of the facility must be designed in a manner that minimizes the need for further maintenance.
- d) Written Closure Plan
 - 1) The operator must maintain a written plan describing all actions that the operator will undertake to close the unit or facility in a manner that fulfills the provisions of the Act, of this Part and of other applicable Parts of 35 Ill. Adm. Code: Chapter I. The written closure plan must fulfill the minimum information requirements of 35 Ill. Adm. Code 812.114.
 - 2) A modification of the written closure plan must constitute a significant modification of the permit for the purposes of 35 Ill. Adm. Code 813.Subpart B.
 - 3) In addition to the informational requirements of subsection 811.100(d)(1), an owner or operator of a MSWLF unit must include the following information in the written closure plan:
 - A) An estimate of the largest area of the MSWLF unit ever requiring a final cover, as required by Section 811.314, at any time during the active life; and
 - B) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility.

BOARD NOTE: Subsection 811.110(d)(3) is derived from 40 CFR 258.60(c)(1) and (c)(2) (2017).
- e) Beginning Closure

- 1) The owner or operator of a MSWLF unit must begin closure activities for each MSWLF unit no later than the date determined as follows:
 - A) 30 days after the date on which the MSWLF unit receives the final receipt of wastes; or
 - B) If the MSWLF unit has remaining capacity and there is a reasonable likelihood that the MSWLF unit will receive additional wastes, no later than one year after the most recent receipt of wastes.
- 2) The Agency must grant extensions beyond this one year deadline for beginning closure if the owner or operator demonstrates that:
 - A) The MSWLF unit has the capacity to receive additional wastes; and
 - B) The owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed MSWLF unit.

BOARD NOTE: Subsection (e) is derived from 40 CFR 258.60(f) (2017).

- f) The owner or operator of a MSWLF unit must complete closure activities for each unit in accordance with closure plan no later than the dates determined as follows:
 - 1) Within 180 days of beginning closure, as specified in subsection (e).
 - 2) The Agency must grant extension of the closure period if the owner or operator demonstrates that:
 - A) The closure will, of necessity, take longer than 180 days; and
 - B) The owner or operator has taken and will continue to take all necessary steps to prevent threats to human health and the environment from the unclosed MSWLF unit.

BOARD NOTE: Subsection (f) is derived from 40 CFR 258.60(g) (2017).

- g) Deed Notation

- 1) Following closure of all MSWLF units at a site, the owner or operator must record a notation on the deed to the landfill facility property or some other instrument that is normally examined during title search. The owner or operator must place a copy of the instrument in the operating record, and must notify the Agency that the notation has been recorded and a copy has been placed in the operating record.

- 2) The notation on the deed or other instrument must be made in such a way that in perpetuity notify any potential purchaser of the property that:
 - A) The land has been used as a landfill facility; and
 - B) Its use is restricted pursuant to Section 811.111(d).

BOARD NOTE: Subsection (g) is derived from 40 CFR 258.60(i) (2017).

- h) The Agency must allow the owner or operator of a MSWLF unit to remove the notation from the deed only if the owner or operator demonstrates to the Agency that all wastes are removed from the facility.

BOARD NOTE: Subsection (h) is derived from 40 CFR 258.60(j) (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.111 Postclosure Maintenance

- a) The operator shall treat, remove from the site, or dispose of all wastes and waste residues within 30 days after receipt of the final volume of waste.
- b) The operator shall remove all equipment or structures not necessary for the postclosure land use, unless otherwise authorized by permit.
- c) Maintenance and Inspection of the Final Cover and Vegetation:
 - 1) Frequency of Inspections
 - A) The operator shall conduct a quarterly inspection of all vegetated surfaces for a minimum of five years after closure, and after five years, the operator may reduce the frequency of annual inspections until settling has stopped and there are no eroded or scoured areas.
 - B) For landfills, other than those used exclusively for disposing waste generated at the site, inspections shall be continued for a minimum period of 15 years after closure.
 - C) For MSWLF units, inspections performed in accordance with subsection (c)(1)(A) shall be continued for a minimum period of 30 years after closure, except as otherwise provided by subsections (c)(1)(D) and (c)(1)(E), below.
 - D) The Agency may reduce the inspection and maintenance period at a MSWLF unit upon a demonstration by the owner or operator that

the reduced period is sufficient to protect human health and environment.

- E) The owner or operator of a MSWLF unit shall petition the Board for an adjusted standard in accordance with Section 811.303, if the owner or operator seeks a reduction of the postclosure care monitoring period for all of the following requirements:
 - i) Inspection and maintenance (Section 811.111);
 - ii) Leachate collection (Section 811.309);
 - iii) Gas monitoring (Section 811.310); and
 - iv) Groundwater monitoring (Section 811.319).
- 2) All rills, gullies and crevices six inches or deeper identified in the inspection shall be filled. Areas identified by the operator or the Agency inspections as particularly susceptible to erosion shall be recontoured.
- 3) All eroded and scoured drainage channels shall be repaired and lining material shall be replaced if necessary.
- 4) All holes and depressions created by settling shall be filled and recontoured so as to prevent standing water.
- 5) All reworked surfaces, and areas with failed or eroded vegetation in excess of 100 square feet cumulatively, shall be revegetated in accordance with the approved closure plan for the facility.
- d) Planned uses of property at MSWLF units
 - 1) The owner or operator of a MSWLF unit shall include a description of the planned uses of the property during the postclosure care period in the written postclosure care plan prepared pursuant to 35 Ill. Adm. Code 812.115.
 - 2) Postclosure use of the property must not disturb the integrity of the final cover, liner, any other components of the containment system, or the function of the monitoring systems, unless necessary to comply with the requirements of this Part.
 - 3) The Agency shall approve any other disturbance if the owner or operator demonstrates that the disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

BOARD NOTE: Subsection (d) is derived from 40 CFR 258.61(c)(3) (1992).

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.112 Recordkeeping Requirements for MSWLF Units

The owner or operator of a MSWLF unit shall record and retain near the facility in an operating record or in some alternative location specified by the Agency, the information submitted to the Agency pursuant to 35 Ill. Adm. Code 812 and 813, as it becomes available. At a minimum, the operating record shall contain the following information, even if such information is not required by 35 Ill. Adm. Code 812 or 813:

- a) Any location restriction demonstration required by Section 811.302(e) and 35 Ill. Adm. Code 812.109, 812.110, 812.303, and 812.305;
- b) Inspection records, training procedures, and notification procedures required by Section 811.323;
- c) Gas monitoring results and any remediation plans required by Section 811.310 and 811.311;
- d) Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit required by Section 811.107(m);
- e) Any demonstration, certification, monitoring results, testing, or analytical data relating to the groundwater monitoring program required by Sections 811.319, 811.324, 811.325, and 811.326 and 35 Ill. Adm. Code 812.317, 813.501, and 813.502;
- f) Closure and post-closure care plans and any monitoring, testing, or analytical data required by Sections 811.110 and 811.111, and 35 Ill. Adm. Code 812.114(h), 812.115, and 812.313; and
- g) Any cost estimates and financial assurance documentation required by Subpart G of this Part.

BOARD NOTE: The requirements of this Section are derived from 40 CFR 258.29 (2005).

(Source: Amended at 31 Ill. Reg. 1435, effective December 20, 2006)

Section 811.113 Electronic Reporting

The filing of any document pursuant to any provision of this Part as an electronic document is subject to 35 Ill. Adm. Code 720.104.

BOARD NOTE: Derived from 40 CFR 3, as added, and 40 CFR 258.29(d) (2005), as amended at 70 Fed. Reg. 59848 (Oct. 13, 2005).

(Source: Added at 31 Ill. Reg. 1435, effective December 20, 2006)

SUBPART B: INERT WASTE LANDFILLS

Section 811.201 Scope and Applicability

The standards of this Subpart, in addition to the requirements of Subpart A, shall apply to all new landfills in which only inert waste is to be placed.

Section 811.202 Determination of Contaminated Leachate

- a) Leachate shall be considered contaminated if it contains concentrations of constituents greater than the public and food processing water supplies standards 35 Ill. Adm. Code 302.301, 302.304, and 302.305. The operator shall determine whether the leachate from the waste is contaminated by analyzing it for constituents for which a numerical standard has been established by the Board.
- b) A representative sample of leachate extracted from the waste by a laboratory procedure may be used to model the expected constituents and concentrations of the leachate. The laboratory test shall meet the following standards:
 - 1) The procedure shall be designed to closely reproduce expected field conditions; and
 - 2) The test shall utilize an extraction fluid representative of the physical and chemical characteristics of the liquid expected to infiltrate through the waste.
- c) Actual samples of leachate from an existing solid waste disposal unit or a test fill may be utilized under the following conditions:
 - 1) The waste in the existing unit is similar to the waste expected to be disposed;

- 2) The conditions under which the leachate was formed are similar to those expected to be encountered; and
- 3) Leachate is sampled so as to be representative of undiluted and unattenuated leachate emanating from the unit.

Section 811.203 Design Period

The design period for all inert waste disposal units shall be the estimated operating life of the unit plus a minimum postclosure care period of five years. For landfills, other than those used exclusively for disposing waste generated at the site, the minimum postclosure care period, for the purposes of monitoring settling at the site, shall be 15 years.

Section 811.204 Final Cover

A minimum of 0.91 meter (three feet) of soil material that will support vegetation which prevents or minimizes erosion shall be applied over all disturbed areas. Where no vegetation is required for the intended postclosure land use, the requirements of Section 811.205(b) will not apply; however, the final surface shall still be designed to prevent or minimize erosion.

Section 811.205 Final Slope and Stabilization

- a) The waste disposal unit shall be designed and constructed to achieve a minimum static slope safety factor of 1.5 and a minimum seismic safety factor of 1.3.
- b) Standards for Vegetation
 - 1) Vegetation shall be promoted on all reconstructed surfaces to minimize wind and water erosion;
 - 2) Vegetation shall be compatible with (i.e. grow and survive under) the local climatic conditions;
 - 3) Vegetation shall require little maintenance;
 - 4) Vegetation shall consist of a diverse mix of native and introduced species consistent with the postclosure land use; and
 - 5) Temporary erosion control measures, including, but not limited to, the application, alone or in combination, of mulch, straw, netting, or chemical soil stabilizers, shall be undertaken while vegetation is being established.

- c) The landfill site shall be monitored for settling for a minimum period of 15 years after closure as specified in Section 811.203 in order to meet the requirements of this Section.

Section 811.206 Leachate Sampling

- a) All inert waste landfills shall be designed to include a monitoring system capable of collecting representative samples of leachate generated by the waste, using methods such as, but not limited to, a pressure-vacuum lysimeter, trench lysimeter or a well point. The sampling locations shall be located so as to collect the least diluted leachate samples.
- b) Leachate samples shall be collected and analyzed at least once every six months to determine, using the statistical procedures of Section 811.320(e), whether the collected leachate is contaminated as defined in 35 Ill. Adm. Code 810.103.
- c) Once every two years, leachate samples shall be tested for the presence of organic chemicals in accordance with Section 811.319(a)(3). If the results of such testing shows the presence of organic chemicals, the operator shall notify the Agency of this finding, in writing, before the end of the business day following the finding.
- d) If the results of testing of leachate samples in accordance with subsection (b) confirm that the leachate is contaminated as defined in 35 Ill. Adm. Code 810.103, the operator shall notify the Agency of this finding, in writing, before the end of the business day following the finding. In addition, the inert waste landfill facility causing the contamination:
 - 1) shall no longer be subject to the inert waste landfill requirements of Subpart B;
 - 2) shall be subject to the requirements for Putrescible and Chemical Waste Landfills of Subpart C, including closure and remedial action.
- e) The results of the chemical analysis tests shall be included in the Quarterly Groundwater Reports submitted to the Agency in accordance with 35 Ill. Adm. Code 813.502 for permitted facilities and 35 Ill. Adm. Code 815.Subpart D for non-permitted facilities.

Section 811.207 Load Checking

- a) The operator shall not accept wastes for disposal at an inert waste landfill unless it is accompanied by documentation that such wastes are inert based on testing of the leachate from such wastes performed in accordance with the requirements of Section 811.202.

- b) The operator shall institute and conduct a random load checking program at each inert waste facility in accordance with the requirements of Section 811.323 except that this program shall also be designed:
 - 1) to detect and discourage attempts to dispose non-inert wastes at the landfill;
 - 2) to require the facility's inspector examine at least one random load of solid waste delivered to the landfill on a random day each week; and
 - 3) to require the operator to test one randomly selected waste sample in accordance with Section 811.202(a) and (b) to determine if the waste is inert.
- c) The operator shall include the results of the load checking in the Annual Report submitted to the Agency in accordance with 35 Ill. Adm. Code 813.501 for permitted facilities and 35 Ill. Adm. Code 815.Subpart C for non-permitted facilities.

SUBPART C: PUTRESCIBLE AND CHEMICAL WASTE LANDFILLS

Section 811.301 Scope and Applicability

In addition to the requirements of Subpart A, the standards of this Subpart apply to all landfills in which chemical and putrescible wastes are to be placed, except as otherwise provided in 35 Ill. Adm. Code 817.

(Source: Amended at 18 Ill. Reg. 12481, effective August 1, 1994)

Section 811.302 Facility Location

- a) No part of a unit may be located within a setback zone established pursuant to Section 14.2 or 14.3 of the Act;
- b) No part of a unit may be located within the recharge zone or within 366 meters (1200 feet), vertically or horizontally, of a sole-source aquifer designated by the United States Environmental Protection Agency pursuant to section 1424(e) of the Safe Drinking Water Act (42 USC 300f et seq.), unless there is a stratum between the bottom of the waste disposal unit and the top of the aquifer that meets the following minimum requirements:
 - 1) The stratum has a minimum thickness of 15.2 meters (50 feet);

- 2) The maximum hydraulic conductivity in both the horizontal and vertical directions is no greater than 1×10^{-7} centimeters per second, as determined by in situ borehole or equivalent tests;
 - 3) There is no indication of continuous sand or silt seams, faults, fractures, or cracks within the stratum that may provide paths for migration; and
 - 4) Age dating of extracted water samples from both the aquifer and the stratum indicates that the time of travel for water percolating downward through the relatively impermeable stratum is no faster than 15.2 meters (50 feet) in 100 years.
- c) A facility located within 152 meters (500 feet) of the right of way of a township or county road or state or interstate highway must have its operations screened from view by a barrier of natural objects, fences, barricades, or plants no less than 2.44 meters (eight feet) in height.
 - d) No part of a unit may be located closer than 152 meters (500 feet) from an occupied dwelling, school, or hospital that was occupied on the date when the operator first applied for a permit to develop the unit or the facility containing the unit, unless the owner of such dwelling, school, or hospital provides permission to the operator, in writing, for a closer distance.
 - e) The facility may not be located closer than 1525 meters (5000 feet) of any runway used by piston type aircraft or within 3050 meters (10,000 feet) of any runway used by turbojet aircraft unless the Federal Aviation Administration (FAA) provides the operator with written permission, including technical justification, for a closer distance.
 - f) An owner or operator proposing to locate a new MSWLF unit within a five-mile radius of any airport runway used by turbojet or piston-type aircraft must notify the affected airport and the FAA within seven days after filing a permit application with Agency in accordance with 35 Ill. Adm. Code 813 for developing a new landfill.

BOARD NOTE: Subsections (e) and (f) are derived from 40 CFR 258.10 (2017). USEPA added the following information in a note appended to 40 CFR 258.10: A prohibition on locating a new MSWLF near certain airports was enacted in section 503 of the federal Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Ford Act) (49 USC 44718(d)). Section 503 prohibits the “construction or establishment” of a new MSWLF after April 5, 2000 within six miles of certain smaller public airports unless the FAA allows an exemption. The FAA administers the Ford Act and has issued guidance in FAA Advisory Circular 150/5200-34, dated August 26, 2000. For further information, please contact the FAA.

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.303 Design Period

- a) The design period for putrescible and chemical waste disposal units shall be the estimated operating life plus a postclosure care period of 30 years. The design period for putrescible waste landfill units, other than MSWLF units, may be reduced if measures are undertaken in compliance with subsections (b) and (c) to encourage stabilization of putrescible waste. The design period for a MSWLF unit may be reduced in accordance with subsection (d).
- b) The design period for a disposal unit which accepts only putrescible waste in shredded form shall be the estimated operating life plus 20 years of postclosure care.
- c) The design period for a putrescible waste disposal unit that recycles leachate in accordance with Section 811.309(f) shall be the estimated operating life plus 20 years of postclosure care.
- d) An owner or operator of a MSWLF unit may petition the Board for an adjusted standard pursuant to Section 28.1 of the Act and 35 Ill. Adm. Code 106.Subpart G to reduce the minimum postclosure care specified in accordance with the requirements Sections 811.111(c), 811.309(h), 811.310(c), and 811.319(a).

BOARD NOTE: Subsection (d) is derived from 40 CFR 258.61(b)(1).

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.304 Foundation and Mass Stability Analysis

- a) The material beneath the unit shall have sufficient strength to support the weight of the unit during all phases of construction and operation. The loads and loading rate shall not cause or contribute to the failure of the liner leachate collection system.
- b) The total settlement or swell of the foundation shall not cause or contribute to the failure of the liner leachate collection system.
- c) The solid waste disposal unit shall be designed to achieve a safety factor against bearing capacity failure of at least: 2.0 under static conditions and 1.5 under seismic loadings.
- d) The waste disposal unit shall be designed to achieve a factor of safety against slope failure of at least: 1.5 for static conditions and 1.3 under seismic conditions.

- e) In calculating factors of safety, both long term (in tens or hundreds of years) and short term (over the design period of the facility) conditions expected at the facility shall be considered.
- f) The potential for earthquake or blast induced liquefaction, and its effect on the stability and integrity of the unit shall be considered and taken into account in the design. The potential for landslides or earthquake induced liquefaction outside the unit shall be considered if such events could affect the unit.

Section 811.305 Foundation Construction

- a) If the in situ material provides insufficient strength to meet the requirements of Section 811.304, then the insufficient material shall be removed and replaced with clean material sufficient to meet the requirements of Section 811.304.
- b) All trees, stumps, roots, boulders and debris shall be removed.
- c) All material shall be compacted to achieve the strength and density properties necessary to demonstrate compliance with this Part in conformance with a construction quality assurance plan pursuant to Subpart E.
- d) Placement of frozen soil or soil into frozen ground is prohibited.
- e) The foundation shall be constructed and graded to provide a smooth, workable surface on which to construct the liner.

Section 811.306 Liner Systems

- a) All units shall be equipped with a leachate drainage and collection system and a compacted earth liner designed as an integrated system in compliance with the requirements of this Section and of Sections 811.307 and 811.308.
- b) The liner and leachate collection system shall be stable during all phases of construction and operation. The side slopes shall achieve a minimum static safety factor of 1.3 and a minimum seismic safety factor of 1.0 at all times.
- c) The liner shall be designed to function for the entire design period.
- d) Compacted Earth Liner Standards
 - 1) The minimum allowable thickness shall be 1.52 meters (5 feet).

- 2) The liner shall be compacted to achieve a maximum hydraulic conductivity of 1×10^{-7} centimeters per second.
- 3) The construction and compaction of the liner shall be carried out in accordance with the construction quality assurance procedures of Subpart E so as to reduce void spaces and allow the liner to support the loadings imposed by the waste disposal operation without settling that causes or contributes to the failure of the leachate collection system.
- 4) The liner shall be constructed from materials whose properties are not affected by contact with the constituents of the leachate expected to be produced.
- 5) Alternative specifications, using standard construction techniques, for hydraulic conductivity and liner thickness may be utilized under the following conditions:
 - A) The liner thickness shall be no less than 1.52 meter (5 feet) unless a composite liner consisting of a geomembrane immediately overlying a compacted earth liner is installed. The following minimum standards shall apply for a composite liner:
 - i) the geomembrane shall be no less than 60 mils in thickness and meet the requirements of subsection (e); and
 - ii) the compacted earth liner shall be no less than 0.91 meter in thickness (3 feet) and meet the requirements of subsection (d)(2) through (d)(4).
 - B) The modified liner shall operate in conjunction with a leachate drainage and collection system to achieve equivalent or superior performance to the requirements of this subsection. Equivalent performance shall be evaluated at maximum annual leachate flow conditions.

e) Geomembrane Liners

- 1) Geomembranes may be used only in conjunction with a compacted earth liner system meeting the requirements of subsection (d) and a leachate drainage and collection system meeting the requirements of Sections 811.307 and 811.308.
- 2) The geomembrane shall be supported by a compacted base free from sharp objects. The geomembrane shall be chemically compatible with the supporting soil materials.

- 3) The geomembrane material shall be compatible with the leachate expected to be generated.
 - 4) Geomembranes shall have sufficient strength and durability to function at the site for the design period under the maximum expected loadings imposed by the waste and equipment and stresses imposed by settlement, temperature, construction and operation.
 - 5) Seams shall be made in the field according to the manufacturer's specifications. All sections shall be arranged so that the use of field seams is minimized and seams are oriented in the direction subject to the least amount of stress.
 - 6) The leachate collection system shall be designed to avoid loss of leachate through openings in the geomembrane.
- f) Slurry Trenches and Cutoff Walls Used to Prevent Migration of Leachate
- 1) Slurry trenches and cutoff walls built to contain leachate migration shall be used only in conjunction with a compacted earth liner and a leachate drainage system meeting the requirements of subsection (d) and Section 811.307 or as part of a remedial action required by Section 811.319.
 - 2) Slurry trenches and cutoff walls shall extend into the bottom confining layer to a depth that will establish and maintain a continuous hydraulic connection and prevent seepage.
 - 3) Exploration borings shall be drilled along the route of the slurry trench or cutoff wall to confirm the depth to the confining layer. In situ tests shall be conducted to determine the hydraulic conductivity of the confining layer.
 - 4) Slurry trenches and cutoff walls shall be stable under all conditions during the design period of the facility. They shall not be susceptible to displacement or erosion under stress or hydraulic gradient.
 - 5) Slurry trenches and cutoff walls shall be constructed in conformance to a construction quality assurance plan, pursuant to Subpart E, that insures that all material and construction methods meet design specifications.
- g) The owner or operator may utilize liner configurations other than those specified in this Section, special construction techniques, and admixtures, provided that:
- 1) The alternative technology or material provides equivalent, or superior, performance to the requirements of this Section;

- 2) The technology or material has been successfully utilized in at least one application similar to the proposed application; and
- 3) Methods for manufacturing quality control and construction quality assurance can be implemented.

Section 811.307 Leachate Drainage System

- a) The leachate drainage system shall be designed and constructed to operate for the entire design period.
- b) The system shall be designed in conjunction with the leachate collection system required by Section 811.308:
 - 1) To maintain a maximum head of leachate 0.30 meter (one foot) above the liner and
 - 2) To operate during the month when the highest average monthly precipitation occurs and if the liner bottom is located within the saturated zone, under the condition that the groundwater table is at its seasonal high level. In addition, the following design assumptions shall apply:
 - A) The unit is assumed to be at field capacity, and
 - B) The final cover is in place.
- c) A drainage layer shall overlay the entire liner system. This drainage layer shall be no less than 0.30 meter (one foot) thick and shall have a hydraulic conductivity equal to or greater than 1×10^{-3} centimeters per second.
- d) The drainage layer shall be designed to maintain laminar flow throughout the drainage layer under the conditions described in subsection (b).
- e) The drainage layer shall be designed with a graded filter or geotextile as necessary to minimize clogging and prevent intrusion of fine material.
- f) Materials used in the leachate collection system shall be chemically resistant to the wastes and the leachate expected to be produced.

Section 811.308 Leachate Collection System

- a) The leachate collection system shall be designed and constructed to function for the entire design period.

- b) Collection pipes shall be designed for open channel flow to convey leachate under the conditions established in Section 811.307(b).
- c) Collection pipes shall be of a cross sectional area that allows cleaning.
- d) Materials used in the leachate collection system shall be chemically resistant to the leachate expected to be produced.
- e) The collection pipe material and bedding materials as placed shall possess structural strength to support the maximum loads imposed by the overlying materials and equipment used at the facility.
- f) Collection pipes shall be constructed within a coarse gravel envelope using a graded filter or geotextile as necessary to minimize clogging.
- g) The system shall be equipped with a sufficient number of manholes and cleanout risers to allow cleaning and maintenance of all pipes throughout the design period.
- h) Leachate shall be able to drain freely from the collection pipes. If sumps are used then pumps shall remove the collected leachate before the level of leachate in the sumps rise above the invert of the collection pipes under the conditions established in Section 811.307(b).

Section 811.309 Leachate Treatment and Disposal Systems

- a) Leachate must be allowed to flow freely from the drainage and collection system. The operator is responsible for the operation of a leachate management system designed to handle all leachate as it drains from the collection system. The leachate management system must consist of any combination of storage, treatment, pretreatment, and disposal options designed and constructed in compliance with the requirements of this Section.
- b) The leachate management system must consist of any combination of multiple treatment and storage structures, to allow the management and disposal of leachate during routine maintenance and repairs.
- c) Standards for Onsite Treatment and Pretreatment
 - 1) All onsite treatment or pretreatment systems must be considered part of the facility.
 - 2) The onsite treatment or pretreatment system must be designed in accordance with the expected characteristics of the leachate. The design

may include modifications to the system necessary to accommodate changing leachate characteristics.

- 3) The onsite treatment or pretreatment system must be designed to function for the entire design period.
- 4) All of the facility's unit operations, tanks, ponds, lagoons and basins must be designed and constructed with liners or containment structures to control seepage to groundwater.
- 5) All treated effluent discharged to waters of the State must meet the requirements of 35 Ill. Adm. Code 309.
- 6) The treatment system must be operated by an operator certified under the requirements of 35 Ill. Adm. Code 312.

d) Standards for Leachate Storage Systems

- 1) Except as otherwise provided in subsection (d)(6), the leachate storage facility must be able to store a minimum of at least five days' worth of accumulated leachate at the maximum generation rate used in designing the leachate drainage system in accordance with Section 811.307. The minimum storage capacity may be built up over time and in stages, so long as the capacity for five consecutive days of accumulated leachate is available at any time during the design period of the facility.
- 2) All leachate storage tanks must be equipped with secondary containment systems equivalent to the protection provided by a clay liner 0.61 meter (2 feet thick) having a permeability no greater than 10^{-7} centimeters per second.
- 3) Leachate storage systems must be fabricated from material compatible with the leachate expected to be generated and resistant to temperature extremes.
- 4) The leachate storage system must not cause or contribute to a malodor.
- 5) The leachate drainage and collection system must not be used for the purpose of storing leachate.
- 6) A facility may have less than five days' worth of storage capacity for accumulated leachate as required by subsection (d)(1), if the owner or operator of the facility demonstrates that multiple treatment, storage and disposal options in the facility's approved leachate management system developed in accordance with subsection (b) will achieve equivalent performance. Such options must consist of not less than one day's worth of storage capacity for accumulated leachate plus at least two alternative means of managing accumulated leachate through treatment or disposal, or

both treatment and disposal, each of which means is capable of treating or disposing of all leachate generated at the maximum generation rate on a daily basis.

e) Standards for Discharge to an Offsite Treatment Works

- 1) Leachate may be discharged to an offsite treatment works that meets the following requirements:
 - A) All discharges of effluent from the treatment works must meet the requirements of 35 Ill. Adm. Code 309.
 - B) The treatment systems must be operated by an operator certified under the requirements of 35 Ill. Adm. Code 312.
 - C) No more than 50 percent of the average daily influent flow can be attributable to leachate from the solid waste disposal facility. Otherwise, the treatment works must be considered a part of the solid waste disposal facility.
- 2) The operator is responsible for securing permission from the offsite treatment works for authority to discharge to the treatment works.
- 3) All discharges to a treatment works must meet the requirements of 35 Ill. Adm. Code 310.
- 4) Pumps, meters, valves and monitoring stations that control and monitor the flow of leachate from the unit and which are under the control of the operator must be considered part of the facility and must be accessible to the operator at all times.
- 5) Leachate must be allowed to flow into the sewage system at all times; however, if access to the treatment works is restricted or anticipated to be restricted for longer than five days, then an alternative leachate management system must be constructed in accordance with subsection (c).
- 6) Where leachate is not directly discharged into a sewage system, the operator must provide storage capacity sufficient to transfer all leachate to an offsite treatment works. The storage system must meet the requirements of subsection (d).

f) Standards for Leachate Recycling Systems

- 1) Leachate recycling systems may be utilized only at permitted waste disposal units that meet the following requirements:

- A) The unit must have a liner designed, constructed and maintained to meet the minimum standards of Section 811.306.
 - B) The unit must have a leachate collection system in place and operating in accordance with Section 811.307.
 - C) A gas management system, equipped with a mechanical device such as a compressor to withdraw gas, must be implemented to control odors and prevent migration of methane in accordance with Section 811.311.
 - D) The topography must be such that any accidental leachate runoff can be controlled by ditches, berms or other equivalent control means.
- 2) Leachate must not be recycled during precipitation events or in volumes large enough to cause runoff or surface seeps.
- 3) The amount of leachate added to the unit must not exceed the ability of the waste and cover soils to transmit leachate flow downward. All other leachate must be considered excess leachate, and a leachate management system capable of disposing of all excess leachate must be available.
- 4) The leachate storage and distribution system must be designed to avoid exposure of leachate to air unless aeration or functionally equivalent devices are utilized.
- 5) The distribution system must be designed to allow leachate to be evenly distributed beneath the surface over the recycle area.
- 6) Daily and intermediate cover must be permeable to the extent necessary to prevent the accumulation of water and formation of perched watertables and gas buildup; alternatively, cover must be removed prior to additional waste placement.
- 7) Daily and intermediate cover must slope away from the perimeter of the site to minimize surface discharges.
- g) Leachate Monitoring
 - 1) Representative samples of leachate must be collected from each established leachate monitoring location in accordance with subsection (g)(5) and tested for the parameters referenced in subsections (g)(2)(G) and (g)(3)(D). The Agency may, by permit condition, require additional, or allow less, leachate sampling and testing as necessary to ensure compliance with this Section and Sections 811.312, 811.317, and 811.319.

- 2) Discharges of leachate from units that dispose of putrescible wastes must be tested for the following constituents prior to treatment or pretreatment:
 - A) Five day biochemical oxygen demand (BOD₅);
 - B) Chemical oxygen demand;
 - C) Total Suspended Solids;
 - D) Total Iron;
 - E) pH;
 - F) Any other constituents listed in the operator's National Pollution Discharge Elimination System (NPDES) discharge permit, pursuant to 35 Ill. Adm. Code 304, or required by a publicly owned treatment works, pursuant to 35 Ill. Adm. Code 310; and
 - G) All the monitoring parameters listed in Section 811.Appendix C, unless an alternate monitoring list has been approved by the Agency.
- 3) Discharges of leachate from units which dispose only chemical wastes must be monitored for constituents determined by the characteristics of the chemical waste to be disposed of in the unit. They must include, as a minimum:
 - A) pH;
 - B) Total Dissolved Solids;
 - C) Any other constituents listed in the operator's NPDES discharge permit, pursuant to 35 Ill. Adm. Code 304, or required by a publicly owned treatment works, pursuant to 35 Ill. Adm. Code 310; and
 - D) All the monitoring parameters listed in Section 811.Appendix C, unless an alternate monitoring list has been approved by the Agency.
- 4) A network of leachate monitoring locations must be established, capable of characterizing the leachate produced by the unit. Unless an alternate network has been approved by the Agency, the network of leachate monitoring locations must include:
 - A) At least four leachate monitoring locations; and

- B) At least one leachate monitoring location for every 25 acres within the unit's waste boundaries.
- 5) Leachate monitoring must be performed at least once every six months and each established leachate monitoring location must be monitored at least once every two years.
- h) Time of Operation of the Leachate Management System
 - 1) The operator must collect and dispose of leachate for a minimum of five years after closure and thereafter until treatment is no longer necessary.
 - 2) Treatment is no longer necessary if the leachate constituents do not exceed the wastewater effluent standards in 35 Ill. Adm. Code 304.124, 304.125, and 304.126 and do not contain a BOD₅ concentration greater than 30 mg/L for six consecutive months.
 - 3) Leachate collection at a MSWLF unit must be continued for a minimum period of 30 years after closure, except as otherwise provided by subsections (h)(4) and (h)(5).
 - 4) The Agency may reduce the leachate collection period at a MSWLF unit upon a demonstration by the owner or operator that the reduced period is sufficient to protect human health and environment.
 - 5) The owner or operator of a MSWLF unit must petition the Board for an adjusted standard in accordance with Section 811.303, if the owner or operator seeks a reduction of the postclosure care monitoring period for all of the following requirements:
 - A) Inspection and maintenance (Section 811.111);
 - B) Leachate collection (Section 811.309);
 - C) Gas monitoring (Section 811.310); and
 - D) Groundwater monitoring (Section 811.319).

BOARD NOTE: Subsection (h) is derived from 40 CFR 258.61 (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.310 Landfill Gas Monitoring

- a) This Section applies to all units that dispose putrescible wastes.

b) Location and Design of Monitoring Wells

- 1) Gas monitoring devices must be placed at intervals and elevations within the waste to provide a representative sampling of the composition and buildup of gases within the unit.
- 2) Gas monitoring devices must be placed around the unit at locations and elevations capable of detecting migrating gas from the ground surface to the lowest elevation of the liner system or the top elevation of the groundwater, whichever is higher.
- 3) A predictive gas flow model may be utilized to determine the optimum placement of monitoring points required for making observations and tracing the movement of gas.
- 4) Gas monitoring devices must be constructed from materials that will not react with or be corroded by the landfill gas.
- 5) Gas monitoring devices must be designed and constructed to measure pressure and allow collection of a representative sample of gas.
- 6) Gas monitoring devices must be constructed and maintained to minimize gas leakage.
- 7) The gas monitoring system must not interfere with the operation of the liner, leachate collection system, or delay the construction of the final cover system.
- 8) At least three ambient air monitoring locations must be chosen and samples must be taken no higher than 0.025 meter (1 inch) above the ground and 30.49m (100 feet) downwind from the edge of the unit or at the property boundary, whichever is closer to the unit.

c) Monitoring Frequency

- 1) All gas monitoring devices, including the ambient air monitors must be operated to obtain samples on a monthly basis for the entire operating period and for a minimum of five years after closure.
- 2) After a minimum of five years after closure, monitoring frequency may be reduced to quarterly sampling intervals.
- 3) The sampling frequency may be reduced to yearly sampling intervals upon the installation and operation of a gas collection system equipped with a mechanical device such as a compressor to withdraw gas.
- 4) Monitoring must be continued for a minimum period of: 30 years after closure at MSWLF units, except as otherwise provided by subsections

(c)(5) and (c)(6); five years after closure at landfills, other than MSWLF units, which are used exclusively for disposing of wastes generated at the site; or 15 years after closure at all other landfills regulated under this Part. Monitoring, beyond the minimum period, may be discontinued if the following conditions have been met for at least one year:

- A) The concentration of methane is less than five percent of the lower explosive limit in air for four consecutive quarters at all monitoring points outside the unit; and
 - B) Monitoring points within the unit indicate that methane is no longer being produced in quantities that would result in migration from the unit and exceed the standards of subsection (a)(1).
- 5) The Agency may reduce the gas monitoring period at an MSWLF unit upon a demonstration by the owner or operator that the reduced period is sufficient to protect human health and environment.
- 6) The owner or operator of an MSWLF unit must petition the Board for an adjusted standard in accordance with Section 811.303, if the owner or operator seeks a reduction of the postclosure care monitoring period for all of the following requirements:
- A) Inspection and maintenance (Section 811.111);
 - B) Leachate collection (Section 811.309);
 - C) Gas monitoring (Section 811.310); and
 - D) Groundwater monitoring (Section 811.319).

BOARD NOTE: Those segments of this subsection (c) that relate to MSWLF units are derived from 40 CFR 258.61 (2017).

d) Parameters to be Monitored

- 1) All below ground monitoring devices must be monitored for the following parameters at each sampling interval:
 - A) Methane;
 - B) Pressure;
 - C) Oxygen; and
 - D) Carbon dioxide.
- 2) Ambient air monitors must be sampled for methane only when the average wind velocity is less than eight kilometers (five miles) per hour at a

minimum of three downwind locations 30.49 meters (100 feet) from the edge of the unit or the property boundary, whichever is closer to the unit.

- 3) All buildings within a facility must be monitored for methane by utilizing continuous detection devices located at likely points where methane might enter the building.
- e) Any alternative frequencies for the monitoring requirement of subsection (c) for any owner or operator of an MSWLF that disposes of 20 tons (18 megagrams) of municipal solid waste per day or less, based on an annual average, must be established by an adjusted standard pursuant to Section 28.1 of the Act and Subpart D of 35 Ill. Adm. Code 104. Any alternative monitoring frequencies established under this subsection (e) must fulfill the following requirements:
 - 1) They must consider the unique characteristics of small communities;
 - 2) They must take into account climatic and hydrogeologic conditions; and
 - 3) They must be protective of human health and the environment.

BOARD NOTE: This subsection (e) is derived from 40 CFR 258.23(e) (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.311 Landfill Gas Management System

- a) The operator shall install a gas management system if any one of the following conditions are met:
 - 1) A methane concentration greater than 50 percent of the lower explosive limit in air is detected below the ground surface by a monitoring device or is detected by an ambient air monitor located at or beyond the property boundary or 30.5 meters (100 feet) from the edge of the unit, whichever is less, unless the operator can demonstrate that the detected methane concentration is not attributable to the facility;
 - 2) Methane is detected at a concentration greater than 25 percent of the lower explosive limit in air in any building on or near the facility unless the operator can demonstrate that the detected methane concentration is not attributable to the facility;
 - 3) Malodors caused by the unit are detected beyond the property boundary;
or
 - 4) Leachate is recycled in accordance with Section 811.309(e).

- b) If methane gas levels exceed the limits specified in subsections (a)(1) or (a)(2), an owner or operator of a MSWLF unit shall:
 - 1) Notify the Agency in writing, within two business days, of an observed exceedance; and
 - 2) Implement the requirements of this Section to ensure the protection of human health.
- c) Standards for Gas Venting System
 - 1) Gas venting systems shall be utilized only as optional, temporary mitigation until the completion of an active system.
 - 2) All materials shall be resistant to chemical reaction with the constituents of the gas.
 - 3) The system shall be capable of venting all gas down to the water table or bottom of the liner, whichever is higher.
 - 4) Gas venting systems shall be installed only outside the perimeter of the unit.
- d) Standards for Gas Collection Systems
 - 1) Gas collection systems may be installed either within the perimeter of the unit or outside the unit.
 - 2) The operator shall design and operate the system so that the standards of subsections (a)(1), (a)(2), and (a)(3) will not be exceeded.
 - 3) The gas collection system shall transport gas to a central point or points for processing for beneficial uses or disposal in accordance with the requirements of Section 811.312.
 - 4) The gas collection system shall be designed to function for the entire design period. The design may include changes in the system to accommodate changing gas flow rates or compositions.
 - 5) All materials and equipment used in construction of the system shall be rated by the manufacturer as safe for use in hazardous or explosive environments and shall be resistant to corrosion by constituents of the landfill gas.
 - 6) The gas collection system shall be designed and constructed to withstand all landfill operating conditions, including settlement.

- 7) The gas collection system and all associated equipment including compressors, flares, monitoring installations, and manholes shall be considered part of the facility.
- 8) Provisions shall be made for collecting and draining gas condensate to a management system meeting the requirements of Section 811.309.
- 9) Under no circumstances shall the gas collection system compromise the integrity of the liner, leachate collection or cover systems.
- 10) The portion of the gas collection system, used to convey the gas collected from one or more units for processing and disposal shall be tested to be airtight to prevent the leaking of gas from the collection system or entry of air into the system.
- 11) The gas collection system shall be operated until the waste has stabilized enough to no longer produce methane in quantities that exceed the minimum allowable concentrations in subsections (a)(1), (a)(2), and (a)(3).
- 12) The gas collection system shall be equipped with a mechanical device, such as a compressor, capable of withdrawing gas, or be designed so that a mechanical device can be easily installed at a later time, if necessary, to meet the requirements of subsections (a)(1), (a)(2), and (a)(3).

BOARD NOTE: Subsection (b) is derived from 40 CFR 258.23(c)(1) (1992).

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.312 Landfill Gas Processing and Disposal System

- a) The processing of landfill gas for use is strongly encouraged but is not required.
- b) Except as allowed in subsection (g), the landfill gas processing and disposal system, including compressors, blowers, raw gas monitoring systems, devices used to control the flow of gas from the unit, flares, gas treatment devices, air pollution control devices and monitoring equipment must remain under the control of the operator and shall be considered part of the waste disposal facility.
- c) No gas may be discharged directly to the atmosphere unless treated or burned onsite prior to discharge in accordance with a permit issued by the Agency pursuant to 35 Ill. Adm. Code 200 through 245.

- d) Representative flow rate measurements shall be made of gas flow into treatment or combustion devices.
- e) When used for the onsite combustion of landfill gas, flares shall meet the general control device requirements of new source performance standards adopted pursuant to Section 9.1(b) of the Act.
- f) Standards for Onsite Combustion of Landfill Gas Using Devices Other Than Flares
 - 1) At a minimum, landfill gas shall be measure for flow rate, heat value, and moisture content along with combustion parameters including, but not limited to, oxygen and carbon dioxide prior to treatment or combustion. Constituents of the landfill gas and combustion byproducts shall be identified for inclusion in an Agency issued permit based on the type of waste streams that are or will be in the landfill, landfill gas analysis and potential for being emitted into the air after treatment or combustion.
 - 2) All constituents and parameters that must be measured before and after treatment or combustion shall be identified and included in a permit issued by the Agency pursuant to 35 Ill. Adm. Code 200 through 245. At a minimum, the following types of constituents must be considered for inclusion in the permit:
 - A) The six criteria air pollutants and the hazardous air pollutants subject to regulation under the Clean Air Act (42 U.S.C. 7401 et seq.);
 - B) Any list of toxic air contaminants, including carcinogens, mutagens and listed hazardous air pollutants adopted by the Board pursuant to Section 9.5 of the Act;
 - C) Volatile Organic Compounds;
 - D) Constituents present in the landfill gas; and
 - E) Combustion byproducts expected to be emitted from the combustion or treatment device.
- g) Landfill gas may be transported offsite to a gas processing facility in accordance with the following requirements:
 - 1) The solid waste disposal facility contributes less than 50 percent of the total volume of gas accepted by the gas processing facility or the gas processing facility is permitted to receive and process landfill gas under the Act and Board regulations. Otherwise, the processing facility must be

considered a part of the solid waste management facility. In any event, no solid waste disposal facility shall transport landfill gas offsite under this Section unless it satisfies the financial assurance requirements of Section 811.704(h)(3).

- 2) The landfill gas shall be monitored for the parameters listed in subsection (f)(1) as well as other constituents such as, ammonia (NH₃), hydrogen sulfide (H₂S) and hydrogen (H₂) that are needed to operate the gas processing facility.
- 3) The gas processing facility shall be sized to handle the expected volume of gas.
- 4) The transportation of gas to an offsite gas processing facility shall in no way relieve the operator of the requirements of Section 811.311(a).

(Source: Amended at 22 Ill. Reg. 11491, effective June 23, 1998)

Section 811.313 Intermediate Cover

- a) All waste which is not to be covered within 60 days of placement by another lift of waste or final cover in accordance with Section 811.314 shall have a cover equivalent to that provided by 0.30 meter (1 foot) of compacted clean soil material.
- b) All areas with intermediate cover shall be graded so as to facilitate drainage of runoff and minimize infiltration and standing water.
- c) The grade and thickness of intermediate cover shall be maintained until the placement of additional wastes or the final cover. All cracks, rills, gullies and depressions shall be repaired to prevent access to the solid waste by vectors, to minimize infiltration and to prevent standing water.

Section 811.314 Final Cover System

- a) The unit must be covered by a final cover consisting of a low permeability layer overlain by a final protective layer constructed in accordance with the requirements of this Section, unless the Agency has issued an RD&D permit that allows the use of an innovative final cover technology pursuant to an adjusted standard issued under 35 Ill. Adm. Code 813.112(b), and that permit is in effect.

b) Standards for the Low Permeability Layer

- 1) Not later than 60 days after placement of the final lift of solid waste, a low permeability layer must be constructed.
- 2) The low permeability layer must cover the entire unit and connect with the liner system.
- 3) The low permeability layer must consist of any one of the following:
 - A) A compacted earth layer constructed in accordance with the following standards:
 - i) The minimum allowable thickness must be 0.91 meter (3 feet); and
 - ii) The layer must be compacted to achieve a permeability of 1×10^{-7} centimeters per second and minimize void spaces.
 - iii) Alternative specifications may be utilized provided that the performance of the low permeability layer is equal to or superior to the performance of a layer meeting the requirements of subsections (b)(3)(A)(i) and (b)(3)(A)(ii).
 - B) A geomembrane constructed in accordance with the following standards:
 - i) The geomembrane must provide performance equal or superior to the compacted earth layer described in subsection (b)(3)(A).
 - ii) The geomembrane must have strength to withstand the normal stresses imposed by the waste stabilization process.
 - iii) The geomembrane must be placed over a prepared base free from sharp objects and other materials that may cause damage.
 - C) Any other low permeability layer construction techniques or materials, provided that they provide equivalent or superior performance to the requirements of this subsection (b).
- 4) For an MSWLF unit, subsection (b)(3) notwithstanding, if the bottom liner system permeability is lower than 1×10^{-7} cm/sec, the permeability of the low permeability layer of the final cover system must be less than or equal to the permeability of the bottom liner system.

- c) Standards for the Final Protective Layer
 - 1) The final protective layer must cover the entire low permeability layer.
 - 2) The thickness of the final protective layer must be sufficient to protect the low permeability layer from freezing and minimize root penetration of the low permeability layer, but must not be less than 0.91 meter (3 feet).
 - 3) The final protective layer must consist of soil material capable of supporting vegetation.
 - 4) The final protective layer must be placed as soon as possible after placement of the low permeability layer to prevent desiccation, cracking, freezing, or other damage to the low permeability layer.
- d) Any alternative requirements for the infiltration barrier in subsection (b) for any owner or operator of an MSWLF that disposes of 20 tons (18 megagrams) of municipal solid waste per day or less, based on an annual average, must be established by an adjusted standard pursuant to Section 28.1 of the Act and Subpart D of 35 Ill. Adm. Code 104. Any alternative requirements established under this subsection must fulfill the following requirements:
 - 1) They must consider the unique characteristics of small communities;
 - 2) They must take into account climatic and hydrogeologic conditions; and
 - 3) They must be protective of human health and the environment.

BOARD NOTE: Subsection (b)(4) is derived from 40 CFR 258.60(a) (2017). Subsection (d) is derived from 40 CFR 258.60(b)(3) (2017). Those segments of subsection (a) that relate to RD&D permits are derived from 40 CFR 258.4(b) (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.315 Hydrogeologic Site Investigations

- a) Purpose

The operator shall conduct a hydrogeologic investigation to develop hydrogeologic information for the following uses:

 - 1) Provide information to perform a groundwater impact assessment; and
 - 2) Provide information to establish a groundwater monitoring system.
- b) General Requirements

- 1) The investigation shall be conducted in a minimum of three phases prior to submission of any application to the Agency for a permit to develop and operate a landfill facility.
- 2) The study area shall consist of the entire area occupied by the facility and any adjacent related areas, if necessary for the purposes of the hydrogeological investigation set forth in subsection (a).
- 3) All borings shall be sampled continuously at all recognizable points of geologic variation, except that where continuous sampling is impossible or where non-continuous sampling can provide equivalent information, samples shall be obtained at intervals no greater than 1.52 meters (five feet) in homogeneous strata.

c) Minimum Requirements for a Phase I Investigation

- 1) The operator shall conduct a Phase I Investigation to develop the following information:
 - A) Climatic aspects of the study area;
 - B) The regional and study area geologic setting, including a description of the geomorphology and stratigraphy of the area;
 - C) The regional groundwater regime including water table depths and aquifer characteristics; and
 - D) Information for the purpose of designing a Phase II Hydrogeologic Investigation.
- 2) Specific Requirements
 - A) The regional hydrogeologic setting of the unit shall be established by using material available from all possible sources, including, but not limited to, the Illinois Scientific Surveys, the Agency, other State and Federal organizations, water well drilling logs, and previous investigations.
 - B) A minimum of one continuously sampled boring shall be drilled on the site, as close as feasible to the geographic center, to determine if the available regional hydrogeologic setting information is accurate and to characterize the site-specific hydrogeology to the extent specified by this phase of the investigation. The boring shall extend at least 15.2 meters (50 feet) below the bottom of the uppermost aquifer or through the full depth of the confining layer below the uppermost aquifer, or to bedrock, if the bedrock is below

the upper most aquifer, whichever elevation is higher. The locations of any additional borings, required under this subsection, may be chosen by the investigator, but shall be sampled continuously.

d) Minimum Requirements for a Phase II Investigation

1) Information to be developed

Using the information developed in the Phase I survey, a Phase II study shall be conducted to collect the site-specific information listed below as needed to augment data collected during the Phase I investigation and to prepare for the Phase III investigation:

- A) Structural characteristics and distribution of underlying strata including bedrock;
- B) Chemical and physical properties including, but not limited to, lithology, mineralogy, and hydraulic characteristics of underlying strata including those below the uppermost aquifer;
- C) Soil characteristics, including soil types, distribution, geochemical and geophysical characteristics;
- D) The hydraulic conductivities of the uppermost aquifer and all strata above it;
- E) The vertical extent of the uppermost aquifer;
- F) The direction and rate of groundwater flow.

2) Specific Requirements

- A) One boring shall be located as close as feasible to the topographical high point, and another shall be located as close as feasible to the topographical low point of the study area.
- B) At least one boring shall be at or near each corner of the site. Where the property is irregularly shaped the borings shall be located near the boundary in a pattern and spacing necessary to obtain data over the entire study area.
- C) Additional borings may be located at intermediate points at locations and spacings necessary to establish the continuity of the stratigraphic units.

- D) Piezometers and groundwater monitoring wells shall be established to determine the direction and flow characteristics of the groundwater in all strata and extending down to the bottom of the uppermost aquifer. Groundwater samples taken from such monitoring wells shall be used to develop preliminary information needed for establishing background concentrations in accordance with subsection (e)(1)(G).
- E) Other methods may be utilized to confirm or accumulate additional information. Such methods may be used only as a supplement to, not in lieu of, site-specific boring information. Other methods include, but are not limited to, geophysical well logs, geophysical surveys, aerial photography, age dating, and test pits.

e) Minimum Standards for a Phase III Investigation

- 1) Using the information developed during the Phase I and Phase II Investigations, the operator shall conduct a Phase III Investigation. This investigation shall be conducted to collect or augment the site-specific information needed to carry out the following:
 - A) Verification and reconciliation of the information collected in the Phase I and II investigations;
 - B) Characterization of potential pathways for contaminant migration;
 - C) Correlation of stratigraphic units between borings;
 - D) Continuity of petrographic features including, but not limited to, sorting, grain size distribution, cementation and hydraulic conductivity;
 - E) Identification of zones of potentially high hydraulic conductivity;
 - F) Identification of the confining layer, if present;
 - G) Concentrations of chemical constituents present in the groundwater below the unit, down to the bottom of the uppermost aquifer, using a broad range of chemical analysis and detection procedures such as, gas chromatographic and mass spectrometric scanning. However, additional measurements and procedures shall be carried out to establish background concentrations, in accordance with Section 811.320(d), for:

- i) Any constituent for which there is a standard at 35 Ill. Adm. Code 620 established by the Board and which is expected to appear in the leachate; and
 - ii) Any other constituent for which there is no Board-established standard, but which is expected to appear in the leachate at concentrations above PQL, as defined in Section 811.319(a)(4)(A) for that constituent;
 - H) Characterization of the seasonal and temporal, naturally and artificially induced, variations in groundwater quality and groundwater flow; and
 - I) Identification of unusual or unpredicted geologic features, including: fault zones, fracture traces, facies changes, solution channels, buried stream deposits, cross cutting structures and other geologic features that may affect the ability of the operator to monitor the groundwater or predict the impact of the disposal facility on groundwater.
- 2) In addition to the specific requirements applicable to Phase I and II investigations, the operator shall collect information needed to meet the minimum standards of a Phase III investigation by using methods that may include, but not limited to excavation of test pits, additional borings located at intermediate points between boreholes placed during Phase I and II investigations, placement of piezometers and monitoring wells, and institution of procedures for sampling and analysis.
- f) The operator may conduct the hydrogeologic investigation in any number of alternative ways provided that the necessary information is collected in a systematic sequence consisting of at least three phases that is equal to or superior to the investigation procedures of this Section.

(Source: Amended at 31 Ill. Reg. 16172, effective November 27, 2007)

Section 811.316 Plugging and Sealing of Drill Holes

All drill holes, including exploration borings that are not converted into monitoring wells, monitoring wells that are no longer necessary to the operation of the site, and other holes that may cause or facilitate contamination of groundwater shall be sealed in accordance with the following standards:

- a) If not sealed or plugged immediately, the drill hole shall be covered to prevent injury to people or animals.

- b) All drill holes no longer intended for use shall be back-filled with materials that are compatible with the geochemistry of the site and with the leachate in sufficient quantities and in such a way as to prevent the creation of a pathway for contaminants to migrate.
- c) For drill holes in gravels and other permeable strata where a watertight seal is not necessary to prevent the creation of a pathway, drill cuttings and other earthen materials may be utilized as backfill.
- d) All excess drilling mud, oil, drill cuttings, and any other contaminated materials uncovered during or created by drilling shall be disposed of in accordance with the requirements of 35 Ill. Adm. Code 700 through 749, 807 and 809 through 815.
- e) The operator shall restore the area around the drill hole to its original condition.

Section 811.317 Groundwater Impact Assessment

The impacts of the seepage of leachate from the unit shall be assessed in a systematic fashion using the techniques described in this Section.

- a) Procedures for Performing the Groundwater Impact Assessment
 - 1) The operator shall estimate the amount of seepage from the unit during operations which assume:
 - A) That the minimum design standards for slope configuration, cover, liner, leachate drainage and collection system apply; and
 - B) That the actual design standards planned for the unit apply. Other designs for the unit may be used if determined by the operator to be appropriate to demonstrate the impacts to groundwater, pursuant to subsection (b).
 - 2) The concentration of constituents in the leachate shall be determined from actual leachate samples from the waste or similar waste, or laboratory derived extracts.
 - 3) A contaminant transport model meeting the standards of subsection (c) shall be utilized to estimate the concentrations of the leachate constituents over time and space. The Agency must review a groundwater contaminant transport model for acceptance in accordance with 35 Ill. Adm. Code 813.111.
- b) Acceptable Groundwater Impact Assessment

The groundwater contaminant transport (GCT) model results shall be used in the assessment of the groundwater impact. The groundwater impact shall be considered acceptable if the GCT model predicts that the concentrations of all constituents of the leachate outside the zone of attenuation are less than the applicable groundwater quality standards of Section 811.320, within 100 years of closure of the unit.

c) Standards for the Contaminant Transport Model

- 1) The model shall have supporting documentation that establishes its ability to represent groundwater flow and contaminant transport and any history of its previous applications.
- 2) The set of equations representing groundwater movement and contaminant transport must be theoretically sound and well documented.
- 3) The numerical solution methods must be based upon sound mathematical principles and be supported by verification and checking techniques.
- 4) The model must be calibrated against site specific field data developed pursuant to this Part.
- 5) A sensitivity analysis shall be conducted to measure the model's response to changes in the values assigned to major parameters, specified error tolerances, and numerically assigned space and time discretizations.
- 6) Mass balance calculations on selected elements in the model shall be performed to verify physical validity. Where the model does not prescribe the amount of mass entering the system as a boundary condition, this step may be ignored.
- 7) The values of the model's parameters requiring site specific data shall be based upon actual field or laboratory measurements.
- 8) The values of the model's parameters which do not require site specific data shall be supported by laboratory test results or equivalent methods documenting the validity of the chosen parametric values.

Section 811.318 Design, Construction, and Operation of Groundwater Monitoring Systems

- a) All potential sources of discharges to groundwater within the facility, including, but not limited to, all waste disposal units and the leachate management system, shall be identified and studied through a network of monitoring wells operated

during the active life of the unit and for the time after closure specified in accordance with Section 811.319. Monitoring wells designed and constructed as part of the monitoring network shall be maintained along with records that include, but are not limited to, exact well location, well size, type of well, the design and construction practice used in its installation and well and screen depths.

b) Standards for the Location of Monitoring Points

- 1) A network of monitoring points shall be established at sufficient locations downgradient with respect to groundwater flow and not excluding the downward direction, to detect any discharge of contaminants from any part of a potential source of discharge.
- 2) Monitoring wells shall be located in stratigraphic horizons that could serve as contaminant migration pathways.
- 3) Monitoring wells shall be established as close to the potential source of discharge as possible without interfering with the waste disposal operations, and within half the distance from the edge of the potential source of discharge to the edge of the zone of attenuation downgradient, with respect to groundwater flow, from the source.
- 4) The network of monitoring points of several potential sources of discharge within a single facility may be combined into a single monitoring network, provided that discharges from any part of all potential sources can be detected.
- 5) A minimum of at least one monitoring well shall be established at the edge of the zone of attenuation and shall be located downgradient with respect to groundwater flow and not excluding the downward direction, from the unit. Such well or wells shall be used to monitor any statistically significant increase in the concentration of any constituent, in accordance with Section 811.320(e) and shall be used for determining compliance with an applicable groundwater quality standard of Section 811.320. An observed statistically significant increase above the applicable groundwater quality standards of Section 811.320 in a well located at or beyond the compliance boundary shall constitute a violation.

c) Maximum Allowable Predicted Concentrations

The operator shall use the same calculation methods, data, and assumptions as used in the groundwater impact assessment to predict the concentration over time and space of all constituents chosen to be monitored in accordance with Section 811.319 at all monitoring points. The predicted values shall be used to establish the maximum allowable predicted concentrations (MAPC) at each monitoring

point. The MAPCs calculated in this subsection shall be applicable within the zone of attenuation.

d) Standards for Monitoring Well Design and Construction

- 1) All monitoring wells shall be cased in a manner that maintains the integrity of the bore hole. The casing material shall be inert so as not to affect the water sample. Casing requiring solvent-cement type couplings shall not be used.
- 2) Wells shall be screened to allow sampling only at the desired interval. Annular space between the borehole wall and well screen section shall be packed with gravel sized to avoid clogging by the material in the zone being monitored. The slot size of the screen shall be designed to minimize clogging. Screens shall be fabricated from material expected to be inert with respect to the constituents of the groundwater to be sampled.
- 3) Annular space above the well screen section shall be sealed with a relatively impermeable, expandable material such as a cement/bentonite grout, which does not react with or in any way affect the sample, in order to prevent contamination of samples and groundwater and avoid interconnections. The seal shall extend to the highest known seasonal groundwater level.
- 4) The annular space shall be back-filled with expanding cement grout from an elevation below the frost line and mounded above the surface and sloped away from the casing so as to divert surface water away.
- 5) The annular space between the upper and lower seals and in the unsaturated zone may be back-filled with uncontaminated cuttings.
- 6) All wells shall be covered with vented caps and equipped with devices to protect against tampering and damage.
- 7) All wells shall be developed to allow free entry of water, minimize turbidity of the sample, and minimize clogging.
- 8) The transmissivity of the zone surrounding all well screens shall be established by field testing techniques.
- 9) Other sampling methods and well construction techniques may be utilized if they provide equal or superior performance to the requirements of this subsection.

e) Standards for Sample Collection and Analysis

- 1) The groundwater monitoring program shall include consistent sampling and analysis procedures to assure that monitoring results can be relied upon to provide data representative of groundwater quality in the zone being monitored.
- 2) The operator shall utilize procedures and techniques to insure that collected samples are representative of the zone being monitored and that prevent cross contamination of samples from other monitoring wells or from other samples. At least 95 percent of a collected sample shall consist of groundwater from the zone being monitored.
- 3) The operator shall establish a quality assurance program that provides quantitative detection limits and the degree of error for analysis of each chemical constituent.
- 4) The operator shall establish a sample preservation and shipment procedure that maintains the reliability of the sample collected for analysis.
- 5) The operator shall institute a chain of custody procedure to prevent tampering and contamination of the collected samples prior to completion of analysis.
- 6) At a minimum, the operator shall sample the following parameters at all wells at the time of sample collection and immediately before filtering and preserving samples for shipment:
 - A) The elevation of the water table;
 - B) pH;
 - C) The temperature of the sample; and
 - D) Specific Conductance.
- 7) The operator must measure the depth of the well below ground on an annual basis, at wells that do not contain dedicated pumps. The operator must measure the depth of the well below ground every 5 years, or whenever the pump is pulled, in wells with dedicated pumps.
- 8) In addition to the requirements of subsections (e)(1) through (e)(6), the following requirements shall apply to MSWLF units:
 - A) Each time groundwater is sampled, an owner or operator of a MSWLF unit shall:

- i) Measure the groundwater elevations in each well immediately prior to purging; and
 - ii) Determine the rate and direction of ground-water flow.
- B) An owner or operator shall measure groundwater elevations in wells which monitor the same waste management area within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

BOARD NOTE: Subsection (e)(7) is derived from 40 CFR 258.53(d) (1992).

(Source: Amended at 31 Ill. Reg. 16172, effective November 27, 2007)

Section 811.319 Groundwater Monitoring Programs

- a) Detection Monitoring Program. Any use of the term maximum allowable predicted concentration in this Section is a reference to Section 811.318(c). The operator must implement a detection monitoring program in accordance with the following requirements:
 - 1) Monitoring Schedule and Frequency
 - A) The monitoring period must begin as soon as waste is placed into the unit of a new landfill or before September 18, 1991 for an existing landfill. Monitoring must continue for a minimum period of 15 years after closure, or in the case of MSWLF units, a minimum period of 30 years after closure, except as otherwise provided by subsection (a)(1)(C). The operator must sample all monitoring points for all potential sources of contamination on a quarterly basis except as specified in subsection (a)(3), for a period of five years from the date of issuance of the initial permit for significant modification under 35 Ill. Adm. Code 814.104 or a permit for a new unit under 35 Ill. Adm. Code 813.104. After the initial five-year period, the sampling frequency for each monitoring point must be reduced to a semi-annual basis, provided the operator has submitted the certification described in 35 Ill. Adm. Code 813.304(b). Alternatively, after the initial five-year period, the Agency must allow sampling on a semi-annual basis if the operator demonstrates that monitoring effectiveness has not been compromised, that sufficient quarterly data has been collected to characterize groundwater, and that leachate from the monitored unit does not constitute a threat to groundwater. For the purposes of this Section, the source must be considered a threat to groundwater if the results of the monitoring indicate either that the

concentrations of any of the constituents monitored within the zone of attenuation is above the maximum allowable predicted concentration for that constituent or, for existing landfills, subject to Subpart D of 35 Ill. Adm. Code 814, that the concentration of any constituent has exceeded the applicable standard at the compliance boundary as defined in 35 Ill. Adm. Code 814.402(b)(3).

- B) Beginning 15 years after closure of the unit, or five years after all other potential sources of discharge no longer constitute a threat to groundwater, as defined in subsection (a)(1)(A), the monitoring frequency may change on a well by well basis to an annual schedule if either of the following conditions exist. However, monitoring must return to a quarterly schedule at any well if a statistically significant increase is determined to have occurred in accordance with Section 811.320(e), in the concentration of any constituent with respect to the previous sample.
 - i) All constituents monitored within the zone of attenuation have returned to a concentration less than or equal to ten percent of the maximum allowable predicted concentration; or
 - ii) All constituents monitored within the zone of attenuation are less than or equal to their maximum allowable predicted concentration for eight consecutive quarters.
- C) Monitoring must be continued for a minimum period of: 30 years after closure at MSWLF units, except as otherwise provided by subsections (a)(1)(D) and (a)(1)(E); five years after closure at landfills, other than MSWLF units, which are used exclusively for disposing waste generated at the site; or 15 years after closure at all other landfills regulated under this Part. Monitoring, beyond the minimum period, may be discontinued under the following conditions:
 - i) No statistically significant increase is detected in the concentration of any constituent above that measured and recorded during the immediately preceding scheduled sampling for three consecutive years, after changing to an annual monitoring frequency; or
 - ii) Immediately after contaminated leachate is no longer generated by the unit.
- D) The Agency may reduce the groundwater monitoring period at a MSWLF unit upon a demonstration by the owner or operator that

the reduced period is sufficient to protect human health and environment.

- E) An owner or operator of a MSWLF unit must petition the Board for an adjusted standard in accordance with Section 811.303, if the owner or operator seeks a reduction of the post-closure care monitoring period for all of the following requirements:
- i) Inspection and maintenance (Section 811.111);
 - ii) Leachate collection (Section 811.309);
 - iii) Gas monitoring (Section 811.310); and
 - iv) Groundwater monitoring (Section 811.319).

BOARD NOTE: Changes to subsections (a)(1)(A), (a)(1)(C), (a)(1)(D), and (a)(1)(E) are derived from 40 CFR 258.61.

2) Criteria for Choosing Constituents to be Monitored

- A) The operator must monitor each well for constituents that will provide a means for detecting groundwater contamination. Constituents must be chosen for monitoring if they meet the following requirements:

- i) The constituent appears in, or is expected to be in, the leachate; and
- ii) Is contained within the following list of constituents:

Ammonia nitrogen (dissolved) (CAS No. 7664-41-7)

Arsenic (dissolved) (CAS No. 7440-38-2)

Boron (dissolved) (CAS No. 7440-42-8)

Cadmium (dissolved) (CAS No. 7440-43-9)

Chloride (dissolved) (CAS No. 16887-00-6)

Chromium (dissolved) (CAS No. 7447-47-3)

Cyanide (total) (CAS No. 57-12-5)

Lead (dissolved) (CAS No. 7439-92-1)

Magnesium (dissolved) (CAS No. 7439-95-4)

Mercury (dissolved) (CAS No. 7439-97-6)

Nitrate (dissolved) (CAS No. 14797-55-8)

Sulfate (dissolved) (CAS No. 14808-79-8)

Total dissolved solids (TDS)

Zinc (dissolved) (CAS No. 7440-66-6)

- iii) This is the minimum list for MSWLFs.

- iv) Any facility accepting more than 50% by volume non-municipal waste must determine additional indicator parameters based upon leachate characteristic and waste content.
 - B) One or more indicator constituents, representative of the transport processes of constituents in the leachate, may be chosen for monitoring in place of the constituents it represents. The use of such indicator constituents must be included in an Agency approved permit.
- 3) Organic Chemicals Monitoring. The operator must monitor each existing well that is being used as a part of the monitoring well network at the facility before September 18, 1991, and monitor each new well within the three months after its establishment. The monitoring required by this subsection (a)(3) must be for a broad range of organic chemical contaminants in accordance with the following procedures:
- A) The analysis must be at least as comprehensive and sensitive as the tests for the 51 organic chemicals in drinking water described at 40 CFR 141.40 and appendix I of 40 CFR 258, each incorporated by reference at 35 Ill. Adm. Code 810.104 and:

Acetone (CAS No. 67-64-1)
Acrylonitrile (CAS No. 107-13-1)
Benzene (CAS No. 71-43-2)
Bromobenzene (CAS No. 108-86-1)
Bromochloromethane (CAS No. 74-97-5)
Bromodichloromethane (CAS No. 75-27-0)
Bromoform; tribromomethane (CAS No. 75-25-2)
n-Butylbenzene (CAS No. 104-51-8)
sec-Butylbenzene (CAS No. 135-98-8)
tert-Butylbenzene (CAS No. 98-06-6)
Carbon disulfide (CAS No. 75-15-0)
Carbon tetrachloride (CAS No. 56-23-5)
Chlorobenzene (CAS No. 108-90-7)
Chloroethane (CAS No. 75-00-3)
Chloroform; trichloromethane (CAS No. 67-66-3)
o-Chlorotoluene (CAS No. 95-49-8)
p-Chlorotoluene (CAS No. 106-43-4)
Dibromochloromethane (CAS No. 124-48-1)
1,2-Dibromo-3-chloropropane (CAS No. 106-43-4)
1,2-Dibromoethane (CAS No. 106-93-4)
1,2-Dichlorobenzene (CAS No. 95-50-1)
1,3-Dichlorobenzene (CAS No. 541-73-1)
1,4-Dichlorobenzene (CAS No. 106-46-7)
trans-1,4-Dichloro-2-butene (CAS No. 110-57-6)

Dichlorodifluoromethane (CAS No. 75-71-8)
1,1-Dichloroethane (CAS No. 75-34-3)
1,2-Dichloroethane (CAS No. 107-06-2)
1,1-Dichloroethylene (CAS No. 75-35-4)
cis-1,2-Dichloroethylene (CAS No. 156-59-2)
trans-1,2-Dichloroethylene (CAS No. 156-60-5)
1,2-Dichloropropane (CAS No. 78-87-5)
1,3-Dichloropropane (CAS No. 142-28-9)
2,2-Dichloropropane (CAS No. 594-20-7)
1,1-Dichloropropene (CAS No. 563-58-6)
1,3-Dichloropropene (CAS No. 542-75-6)
cis-1,3-Dichloropropene (CAS No. 10061-01-5)
trans-1,3-Dichloropropene (CAS No. 10061-02-6)
Ethylbenzene (CAS No. 100-41-4)
Hexachlorobutadiene (CAS No. 87-68-3)
2-Hexanone; methyl butyl ketone (CAS No. 591-78-6)
Isopropylbenzene (CAS No. 98-82-8)
p-Isopropyltoluene (CAS No. 99-87-6)
Methyl bromide; bromomethane (CAS No. 74-83-9)
Methyl chloride; chloromethane (CAS No. 74-87-3)
Methylene bromide; dibromomethane (CAS No. 74-95-3)
Dichloromethane (CAS No. 75-09-2)
Methyl ethyl ketone (CAS No. 78-93-3)
Methyl iodide; iodomethane (CAS No. 74-88-4) 4-Methyl-
2-pentanone (CAS No. 108-10-1)
Naphthalene (CAS No. 91-20-3)
Oil and Grease (hexane soluble)
n-Propylbenzene (CAS No. 103-65-1)
Styrene (CAS No. 100-42-5)
1,1,1,2-Tetrachloroethane (CAS No. 630-20-6)
1,1,2,2-Tetrachloroethane (CAS No. 79-34-5)
Tetrachloroethylene (CAS No. 127-18-4)
Tetrahydrofuran (CAS No. 109-99-9)
Toluene (CAS No. 108-88-3-23-8)
Total Phenolics
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene (CAS No. 120-82-1)
1,1,1-Trichloroethane (CAS No. 71-55-6)
1,1,2-Trichloroethane (CAS No. 79-00-5)
Trichloroethylene (CAS No. 79-01-6)
Trichlorofluoromethane (CAS No. 75-69-4)
1,2,3-Trichloropropane (CAS No. 96-18-4)
1,2,4-Trimethylbenzene (CAS No. 526-73-8)
1,3,5-Trimethylbenzene (CAS No. 108-67-8)
Vinyl acetate (CAS No. 108-05-4)
Vinyl chloride (CAS No. 75-01-4)

Xylenes (CAS No. 1330-20-7)

- B) At least once every two years, the operator must monitor each well in accordance with subsection (a)(3)(A).
- C) The operator of a MSWLF unit must monitor each well in accordance with subsection (a)(3)(A) on a semi-annual basis.

BOARD NOTE: Subsection (a)(3)(C) is derived from 40 CFR 258.54(b).

4) Confirmation of Monitored Increase

- A) The confirmation procedures of this subsection must be used only if the concentrations of the constituents monitored can be measured at or above the practical quantitation limit (PQL). The PQL is defined as the lowest concentration that can be reliably measured within specified limits of precision and accuracy, under routine laboratory operating conditions. The operator must institute the confirmation procedures of subsection (a)(4)(B) after notifying the Agency in writing, within 10 days, of observed increases:
 - i) The concentration of any inorganic constituent monitored in accordance with subsections (a)(1) and (a)(2) shows a progressive increase over eight consecutive monitoring events;
 - ii) The concentration of any constituent exceeds the maximum allowable predicted concentration at an established monitoring point within the zone of attenuation;
 - iii) The concentration of any constituent monitored in accordance with subsection (a)(3) exceeds the preceding measured concentration at any established monitoring point; and
 - iv) The concentration of any constituent monitored at or beyond the zone of attenuation exceeds the applicable groundwater quality standards of Section 811.320.
- B) The confirmation procedures must include the following:
 - i) The operator must verify any observed increase by taking additional samples within 90 days after the initial sampling event and ensure that the samples and sampling protocol used will detect any statistically significant increase in the concentration of the suspect constituent in accordance with

Section 811.320(e), so as to confirm the observed increase. The operator must notify the Agency of any confirmed increase before the end of the next business day following the confirmation.

- ii) The operator must determine the source of any confirmed increase, which may include, but must not be limited to, natural phenomena, sampling or analysis errors, or an offsite source.
 - iii) The operator must notify the Agency in writing of any confirmed increase. The notification must demonstrate a source other than the facility and provide the rationale used in such a determination. The notification must be submitted to the Agency no later than 180 days after the original sampling event. If the facility is permitted by the Agency, the notification must be filed for review as a significant permit modification under Subpart B of 35 Ill. Adm. Code 813.
 - iv) If an alternative source demonstration described in subsections (a)(4)(B)(ii) and (a)(4)(B)(iii) cannot be made, assessment monitoring is required in accordance with subsection (b).
 - v) If an alternative source demonstration, submitted to the Agency as an application, is denied under 35 Ill. Adm. Code 813.105, the operator must commence sampling for the constituents listed in subsection (b)(5), and submit an assessment monitoring plan as a significant permit modification, both within 30 days after the dated notification of Agency denial. The operator must sample the well or wells that exhibited the confirmed increase.
- b) Assessment Monitoring. The operator must begin an assessment monitoring program in order to confirm that the solid waste disposal facility is the source of the contamination and to provide information needed to carry out a groundwater impact assessment in accordance with subsection (c). The assessment monitoring program must be conducted in accordance with the following requirements:
- 1) The assessment monitoring must be conducted in accordance with this subsection to collect information to assess the nature and extent of groundwater contamination. The owner or operator of a MSWLF unit must comply with the additional requirements prescribed in subsection (b)(5). The assessment monitoring must consist of monitoring of additional constituents that might indicate the source and extent of contamination. In addition, assessment monitoring may include any other

investigative techniques that will assist in determining the source, nature and extent of the contamination, which may consist of, but need not be limited to the following:

- A) More frequent sampling of the wells in which the observation occurred;
 - B) More frequent sampling of any surrounding wells; and
 - C) The placement of additional monitoring wells to determine the source and extent of the contamination.
- 2) Except as provided for in subsections (a)(4)(B)(iii) and (a)(4)(B)(v), the operator of the facility for which assessment monitoring is required must file the plans for an assessment monitoring program with the Agency. If the facility is permitted by the Agency, then the plans must be filed for review as a significant permit modification under Subpart B of 35 Ill. Adm. Code 813 within 180 days after the original sampling event. The assessment monitoring program must be implemented within 180 days after the original sampling event in accordance with subsection (a)(4) or, in the case of permitted facilities, within 45 days after Agency approval.
- 3) If the analysis of the assessment monitoring data shows that the concentration of one or more constituents, monitored at or beyond the zone of attenuation is above the applicable groundwater quality standards of Section 811.320 and is attributable to the solid waste disposal facility, then the operator must determine the nature and extent of the groundwater contamination including an assessment of the potential impact on the groundwater should waste continue to be accepted at the facility and must implement the remedial action in accordance with subsection (d).
- 4) If the analysis of the assessment monitoring data shows that the concentration of one or more constituents is attributable to the solid waste disposal facility and exceeds the maximum allowable predicted concentration within the zone of attenuation, then the operator must conduct a groundwater impact assessment in accordance with the requirements of subsection (c).
- 5) In addition to the requirements of subsection (b)(1), to collect information to assess the nature and extent of groundwater contamination, the following requirements are applicable to MSWLF units:
- A) The monitoring of additional constituents under subsection (b)(1) must include, at a minimum (except as otherwise provided in subsection (b)(5)(E)), the constituents listed in appendix II of 40 CFR 258, incorporated by reference at 35 Ill. Adm. Code 810.104, and constituents from 35 Ill. Adm. Code 620.410.

BOARD NOTE: Subsection (b)(5)(A) is derived from 40 CFR 258.55(b).

- B) Within 14 days after obtaining the results of sampling required under subsection (b)(5)(A), the owner or operator must do as follows:
- i) The owner or operator must place a notice in the operating record identifying the constituents that have been detected; and
 - ii) The owner or operator must notify the Agency that such a notice has been placed in the operating record.

BOARD NOTE: Subsection (b)(5)(B) is derived from 40 CFR 258.55(d)(1).

- C) The owner or operator must establish background concentrations for any constituents detected under subsection (b)(5)(A) in accordance with Section 811.320(e).

BOARD NOTE: Subsection (b)(5)(C) is derived from 40 CFR 258.55(d)(3).

- D) Within 90 days after the initial monitoring in accordance with subsection (b)(5)(A), the owner or operator must monitor for the detected constituents listed in appendix II of 40 CFR 258, incorporated by reference in 35 Ill. Adm. Code 810.104, and 35 Ill. Adm. Code 620.410 on a semiannual basis during the assessment monitoring. The operator must monitor all the constituents listed in appendix II of 40 CFR 258 and 35 Ill. Adm. Code 620.410 on an annual basis during assessment monitoring.

BOARD NOTE: Subsection (b)(5)(D) is derived from 40 CFR 258.55(d)(2).

- E) The owner or operator may request the Agency to delete any of the 40 CFR 258 and 35 Ill. Adm. Code 620.410 constituents by demonstrating to the Agency that the deleted constituents are not reasonably expected to be in or derived from the waste contained in the leachate.

BOARD NOTE: Subsection (b)(5)(E) is derived from 40 CFR 258.55(b).

- F) Within 14 days after finding an exceedance above the applicable groundwater quality standards in accordance with subsection (b)(3), the owner or operator must do as follows:

- i) The owner or operator must place a notice in the operating record that identifies the constituents monitored under subsection (b)(1)(D) that have exceeded the groundwater quality standard;
- ii) The owner or operator must notify the Agency and the appropriate officials of the local municipality or county within whose boundaries the site is located that such a notice has been placed in the operating record; and
- iii) The owner or operator must notify all persons who own land or reside on land that directly overlies any part of the plume of contamination if contaminants have migrated off-site.

BOARD NOTE: Subsection (b)(5)(F) is derived from 40 CFR 258.55(g)(1)(i) through (g)(1)(iii).

- G) If the concentrations of all constituents in appendix II of 40 CFR 258, incorporated by reference in 35 Ill. Adm. Code 810.104, and 35 Ill. Adm. Code 620.410 are shown to be at or below background values, using the statistical procedures in Section 811.320(e), for two consecutive sampling events, the owner or operator must notify the Agency of this finding and may stop monitoring the appendix II of 40 CFR 258 and 35 Ill. Adm. Code 620.410 constituents.

BOARD NOTE: Subsection (b)(5)(G) is derived from 40 CFR 258.55(e).

- c) **Assessment of Potential Groundwater Impact.** An operator required to conduct a groundwater impact assessment in accordance with subsection (b)(4) must assess the potential impacts outside the zone of attenuation that may result from confirmed increases above the maximum allowable predicted concentration within the zone of attenuation, attributable to the facility, in order to determine if there is need for remedial action. In addition to the requirements of Section 811.317, the following requirements apply:
 - 1) The operator must utilize any new information developed since the initial assessment and information from the detection and assessment monitoring programs and such information may be used for the recalibration of the GCT model; and
 - 2) The operator must submit the groundwater impact assessment and any proposed remedial action plans determined necessary under subsection (d) to the Agency within 180 days after the start of the assessment monitoring program.

- d) Remedial Action. The owner or operator of a MSWLF unit must conduct corrective action in accordance with Sections 811.324, 811.325, and 811.326. The owner or operator of a landfill facility, other than a MSWLF unit, must conduct remedial action in accordance with this subsection (d).
- 1) The operator must submit plans for the remedial action to the Agency. Such plans and all supporting information including data collected during the assessment monitoring must be submitted within 90 days after determination of either of the following:
 - A) The groundwater impact assessment, performed in accordance with subsection (c), indicates that remedial action is needed; or
 - B) Any confirmed increase above the applicable groundwater quality standards of Section 811.320 is determined to be attributable to the solid waste disposal facility in accordance with subsection (b).
 - 2) If the facility has been issued a permit by the Agency, then the operator must submit this information as an application for significant modification to the permit;
 - 3) The operator must implement the plan for remedial action program within 90 days after the following:
 - A) Completion of the groundwater impact assessment that requires remedial action;
 - B) Establishing that a violation of an applicable groundwater quality standard of Section 811.320 is attributable to the solid waste disposal facility in accordance with subsection (b)(3); or
 - C) Agency approval of the remedial action plan, if the facility has been permitted by the Agency.
 - 4) The remedial action program must consist of one or a combination of one of more of the following solutions:
 - A) Retrofit additional groundwater protective measures within the unit;
 - B) Construct an additional hydraulic barrier, such as a cutoff wall or slurry wall system;
 - C) Pump and treat the contaminated groundwater; or
 - D) Any other equivalent technique that will prevent further contamination of groundwater.

- 5) Termination of the Remedial Action Program
 - A) The remedial action program must continue in accordance with the plan until monitoring shows that the concentrations of all monitored constituents are below the maximum allowable predicted concentration within the zone of attenuation, below the applicable groundwater quality standards of Section 811.320 at or beyond the zone of attenuation, over a period of four consecutive quarters no longer exist.
 - B) The operator must submit to the Agency all information collected under subsection (d)(5)(A). If the facility is permitted, then the operator must submit this information as a significant modification of the permit.

(Source: Amended at 44 Ill. Reg. 15577, effective September 3, 2020)

Section 811.320 Groundwater Quality Standards

- a) Applicable Groundwater Quality Standards
 - 1) Groundwater quality must be maintained at each constituent's background concentration, at or beyond the zone of attenuation. The applicable groundwater quality standard established for any constituent must be:
 - A) The background concentration; or
 - B) The Board established standard adjusted by the Board in accordance with the justification procedure of subsection (b).
 - 2) Any statistically significant increase above an applicable groundwater quality standard established under subsection (a)(1) that is attributable to the facility and that occurs at or beyond the zone of attenuation within 100 years after closure of the last unit accepting waste within such a facility must constitute a violation.
 - 3) For the purposes of this Part:
 - A) "Background concentration" means that concentration of a constituent that is established as the background in accordance with subsection (d); and
 - B) "Board established standard" is the concentration of a constituent adopted by the Board as a groundwater quality standard adopted by the Board under Section 14.4 of the Act or Section 8 of the Illinois Groundwater Protection Act [415 ILCS 55].

b) Justification for Adjusted Groundwater Quality Standards

- 1) An operator may petition the Board for an adjusted groundwater quality standard in accordance with the procedures specified in Section 28.1 of the Act and 35 Ill. Adm. Code 104.Subpart D.
- 2) For groundwater that contains naturally occurring constituents that meet the applicable requirements of 35 Ill. Adm. Code 620.410, 620.420, 620.430, or 620.440 the Board will specify adjusted groundwater quality standards no greater than those of 35 Ill. Adm. Code 620.410, 620.420, 620.430 or 620.440, respectively, upon a demonstration by the operator that:
 - A) The change in standards will not interfere with, or become injurious to, any present or potential beneficial uses for the water;
 - B) The change in standards is necessary for economic or social development, by providing information including, but not limited to, the impacts of the standards on the regional economy, social disbenefits such as loss of jobs or closing of landfills, and economic analysis contrasting the health and environmental benefits with costs likely to be incurred in meeting the standards ; and
 - C) All technically feasible and economically reasonable methods are being used to prevent the degradation of the groundwater quality.
- 3) Notwithstanding subsection (b)(2), in no case must the Board specify adjusted groundwater quality standards for a MSWLF unit greater than the following levels:

Chemical	Concentration (mg/l)
Arsenic (CAS No. 7440-38-2)	0.05
Barium (CAS No. 7440-39-3)	1.0
Benzene (CAS No. 71-43-2)	0.005
Cadmium (CAS No. 7440-43-9)	0.01
Carbon tetrachloride (CAS No. 56-23-5)	0.005
Chromium (hexavalent) (CAS No. 18540-29-9)	0.05
1,4-Dichlorobenzene (CAS No. 106-46-7)	0.075
1,2-Dichloroethane (CAS No. 107-06-2)	0.005
1,1-Dichloroethylene (CAS No. 75-35-4)	0.007
2,4-Dichlorophenoxy acetic acid (CAS No. 94-75-7)	0.1
Endrin (CAS No. 72-20-8)	0.0002

Fluoride (CAS No. 16984-48-8)	4
Lindane (CAS No. 58-89-9)	0.004
Lead (CAS No. 7439-92-1)	0.05
Mercury (CAS No. 7439-97-6)	0.002
Methoxychlor (CAS No. 72-43-5)	0.1
Nitrate (CAS No. 14797-55-8)	10
Selenium (CAS No. 7782-49-2)	0.01
Silver (CAS No. 7440-22-4)	0.05
Toxaphene (CAS No. 8001-35-2)	0.005
1,1,1-Trichloroethane (CAS No. 71-55-6)	0.2
Trichloroethylene (CAS No. 79-01-6)	0.005
2,4,5-Trichlorophenoxyacetic acid (CAS No. 93-76-5)	0.01
Vinyl chloride (CAS No. 75-01-4)	0.002

BOARD NOTE: Subsection (b)(3) is derived from 40 CFR 258.40 Table 1.

- 4) For groundwater that contains naturally occurring constituents that do not meet the standards of 35 Ill. Adm. Code 620.410, 620.420, 620.430, or 620.440, the Board will specify adjusted groundwater quality standards, upon a demonstration by the operator that:
 - A) The groundwater does not presently serve as a source of drinking water;
 - B) The change in standards will not interfere with, or become injurious to, any present or potential beneficial uses for those waters;
 - C) The change in standards is necessary for economic or social development, by providing information including, but not limited to, the impacts of the standards on the regional economy, social disbenefits such as loss of jobs or closing of landfills, and economic analysis contrasting the health and environmental benefits with costs likely to be incurred in meeting the standards; and
 - D) The groundwater cannot presently, and will not in the future, serve as a source of drinking water because:
 - i) It is impossible to remove water in usable quantities;
 - ii) The groundwater is situated at a depth or location such that recovery of water for drinking purposes is not technologically feasible or economically reasonable;

- iii) The groundwater is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption;
- iv) The total dissolved solids content of the groundwater is more than 3,000 mg/ℓ and that water will not be used to serve a public water supply system; or
- v) The total dissolved solids content of the groundwater exceeds 10,000 mg/ℓ.

c) Determination of the Zone of Attenuation

- 1) The zone of attenuation, within which concentrations of constituents in leachate discharged from the unit may exceed the applicable groundwater quality standard of this Section, is a volume bounded by a vertical plane at the property boundary or 100 feet from the edge of the unit, whichever is less, extending from the ground surface to the bottom of the uppermost aquifer and excluding the volume occupied by the waste.
- 2) Zones of attenuation must not extend to the annual high-water mark of navigable surface waters.
- 3) Overlapping zones of attenuation from units within a single facility may be combined into a single zone for the purposes of establishing a monitoring network.

d) Establishment of Background Concentrations

- 1) The initial monitoring to determine background concentrations must commence during the hydrogeological assessment required by Section 811.315. The background concentrations for those parameters identified in Sections 811.315(e)(1)(G) and 811.319(a)(2) and (a)(3) must be established based on consecutive quarterly sampling of wells for a minimum of one year, monitored in accordance with the requirements of subsections (d)(2), (d)(3) and (d)(4). Non-consecutive data may be considered by the Agency, if only one data point from a quarterly event is missing, and it can be demonstrated that the remaining data set is representative of consecutive data in terms of any seasonal or temporal variation. Statistical tests and procedures must be employed, in accordance with subsection (e), depending on the number, type and frequency of samples collected from the wells, to establish the background concentrations.
- 2) Adjustments to the background concentrations must be made if changes in the concentrations of constituents observed in background wells over time are determined, in accordance with subsection (e), to be statistically significant, and due to natural temporal or spatial variability or due to an

off-site source not associated with the landfill or the landfill activities. Such adjustments may be conducted no more frequently than once every two years during the operation of a facility and modified subject to approval by the Agency. Non-consecutive data may be used for an adjustment upon Agency approval. Adjustments to the background concentration must not be initiated prior to November 27, 2009 unless required by the Agency.

- 3) Background concentrations determined in accordance with this subsection must be used for the purposes of establishing groundwater quality standards, in accordance with subsection (a). The operator must prepare a list of the background concentrations established in accordance with this subsection. The operator must maintain such a list at the facility, must submit a copy of the list to the Agency for establishing standards in accordance with subsection (a), and must provide updates to the list within ten days of any change to the list.
- 4) A network of monitoring wells must be established upgradient from the unit, with respect to groundwater flow, in accordance with the following standards, in order to determine the background concentrations of constituents in the groundwater:
 - A) The wells must be located at such a distance that discharges of contaminants from the unit will not be detectable;
 - B) The wells must be sampled at the same frequency as other monitoring points to provide continuous background concentration data, throughout the monitoring period; and
 - C) The wells must be located at several depths to provide data on the spatial variability.
- 5) A determination of background concentrations may include the sampling of wells that are not hydraulically upgradient of the waste unit if the following conditions are met:
 - A) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient of the waste; and
 - B) Sampling at other wells will provide an indication of background concentrations that is representative of that which would have been provided by upgradient wells.
- 6) If background concentrations cannot be determined on site, then alternative background concentrations may be determined from actual monitoring data from the aquifer of concern, which includes, but is not limited to, data from another landfill site that overlies the same aquifer.

e) Statistical Analysis of Groundwater Monitoring Data

- 1) Statistical tests must be used to analyze groundwater monitoring data. One or more of the normal theory statistical tests must be chosen first for analyzing the data set or transformations of the data set. If these normal theory tests are demonstrated to be inappropriate, tests listed in subsection (e)(4) must be used. The level of significance (Type I error level) must be no less than 0.01, for individual well comparisons, and no less than 0.05, for multiple well comparisons. The statistical analysis must include, but not be limited to, the accounting of data below the detection limit of the analytical method used, the establishment of background concentrations and the determination of whether statistically significant changes have occurred in:
 - A) The concentration of any chemical constituent with respect to the background concentration or maximum allowable predicted concentration; and
 - B) The established background concentration of any chemical constituents over time.
- 2) The statistical test or tests used must be based upon the sampling and collection protocol of Sections 811.318 and 811.319.
- 3) Monitored data that are below the level of detection must be reported as not detected (ND). The level of detection for each constituent must be the practical quantitation limit (PQL) and must be the lowest concentration that is protective of human health and the environment, and can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions. In no case, must the PQL be established above the level that the Board has established for a groundwater quality standard under the Illinois Groundwater Protection Act. The following procedures must be used to analyze such data, unless an alternative procedure in accordance with subsection (e)(4), is shown to be applicable:
 - A) If the percentage of non-detects in the data base used is less than 15 percent, the operator must replace NDs with the PQL divided by two, then proceed with the use of one or more of the normal theory statistical tests;
 - B) If the percentage of non-detects in the data base used is between 15 and 50 percent, and the data are normally distributed, the operator must use Cohen's or Aitchison's adjustment to the sample mean and standard deviation, followed by an applicable statistical procedure;

- C) If the percentage of non-detects in the database used is above 50 percent, then the owner or operator must use an alternative procedure in accordance with subsection (e)(4).
- 4) Nonparametric statistical tests or any other statistical test if it is demonstrated to meet the requirements of 35 Ill. Adm. Code 724.197(i).

(Source: Amended at 44 Ill. Reg. 15577, effective September 3, 2020)

Section 811.321 Waste Placement

a) Phasing of Operations

- 1) Waste disposal operations must move from the lowest portions of the unit to the highest portions. Except as provided in subsection (a)(2), the placement of waste must begin in the lowest part of the active face of the unit, located in the part of the facility most downgradient, with respect to groundwater flow.
- 2) The operator may dispose of wastes in areas other than those specified in subsection (a)(1) only under any of the following conditions:
 - A) Climatic conditions, such as wind and precipitation, are such that the placement of waste in the bottom of the unit would cause water pollution, litter or damage to any part of the liner;
 - B) The topography of the land surrounding the unit makes the procedure of subsection (a)(1) environmentally unsound, for example, because steep slopes surround the unit; or
 - C) When groundwater monitoring wells, constructed in accordance with the requirements of Section 811.319, are placed 50 feet, or less, downgradient from the filled portions of the unit.

b) Initial Waste Placement

- 1) Construction, compaction and earth moving equipment must be prohibited from operating directly on the leachate collection piping system until a minimum of five feet of waste has been mounded over the system.
- 2) Construction, compaction and earth moving equipment must be prohibited from operating directly on the leachate drainage blanket. Waste disposal operations must begin at the edge of the drainage layer by carefully pushing waste out over the drainage layer.

- 3) An initial layer of waste, a minimum of five feet thick, or, alternatively, a temporary protective layer of other material suitable to prevent the compacted earth liner from freezing, must be placed over the entire drainage blanket prior to the onset of weather conditions that may cause the compacted earth liner to freeze, except as provided in subsection (b)(4).
- 4) Waste must not be placed over areas that are subject to freezing conditions until the liner has been certified or recertified by the CQA officer designated pursuant to Section 811.502 and reconstructed (if necessary) to meet the requirements of Section 811.306.

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.322 Final Slope and Stabilization

- a) All final slopes shall be designed and constructed to a grade capable of supporting vegetation and which minimizes erosion.
- b) All slopes shall be designed to drain runoff away from the cover and which prevents ponding. No standing water shall be allowed anywhere in or on the unit.
- c) Vegetation
 - 1) Vegetation shall be promoted on all reconstructed surfaces to minimize wind and water erosion of the final protective cover;
 - 2) Vegetation shall be compatible with the climatic conditions;
 - 3) Vegetation shall require little maintenance;
 - 4) Vegetation shall consist of a diverse mix of native and introduced species that is consistent with the postclosure land use;
 - 5) Vegetation shall be tolerant of the landfill gas expected to be generated;
 - 6) The root depth of the vegetation shall not exceed the depth of the final protective cover system; and
 - 7) Temporary erosion control measures, including but not limited to mulch straw, netting and chemical soil stabilizers, shall be undertaken while vegetation is being established.
- d) Structures Constructed Over the Unit
 - 1) Structures constructed over the unit must be compatible with the land use;

- 2) Such structures shall be designed to vent gases away from the interior; and
- 3) Such structures must in no way interfere with the operation of a cover system, gas collection system, leachate collection system or any monitoring system.

Section 811.323 Load Checking Program

- a) The operator must implement a load checking program that meets the requirements of this Section, for detecting and discouraging attempts to dispose regulated hazardous wastes at the facility. For purposes of this Section and Section 811.406, “regulated hazardous waste” means a solid waste that is a hazardous waste, as defined in 35 Ill. Adm. Code 721.103, that is not excluded from regulation as hazardous waste under 35 Ill. Adm. Code 721.104(b) or which was not generated by a VSQG, as defined in 35 Ill. Adm. Code 720.110.
- b) In addition to checking for hazardous waste in accordance with subsection (a), the load checking program at a MSWLF unit must include waste load inspection for detecting and discouraging attempts to dispose of polychlorinated biphenyl wastes, as defined in 40 CFR 761.3 (2017).
- c) The load checking program must consist of, at a minimum, the following components:
 - 1) Random Inspections
 - A) An inspector designated by the facility must examine at least three random loads of solid waste delivered to the landfill on a random day each week. The drivers randomly selected by the inspector must be directed to discharge their loads at a separate, designated location within the facility. The facility must conduct a detailed inspection of the discharged material for any regulated hazardous or other unacceptable wastes that may be present. Cameras or other devices may be used to record the visible contents of solid waste shipments. If these devices are employed, their use should be designated on a sign posted near the entrance to the facility.
 - B) If regulated hazardous wastes or other unacceptable wastes are suspected, the facility must communicate with the generator, hauler or other party responsible for shipping the waste to the facility to determine the identity of the waste.

- 2) Recording Inspection Results. Information and observations derived from each random inspection must be recorded in writing and retained at the facility for at least three years. The recorded information must include, at a minimum, the date and time of the inspection; the names of the hauling firm and the driver of the vehicle; the vehicle license plate number; the source of the waste, as stated by the driver; and observations made by the inspector during the detailed inspection. The written record must be signed by both the inspector and the driver.
 - 3) Training. The solid waste management facility must train designated inspectors, equipment operators, weigh station attendants, spotters at large facilities, and all other appropriate facility personnel in the identification of potential sources of regulated hazardous wastes and other unacceptable wastes, including but not limited to PCBs. The training program must emphasize familiarity with containers typically used for regulated hazardous wastes and with labels for regulated hazardous wastes, under RCRA, and for hazardous materials under the Hazardous Materials Transportation Act (49 USC 1801 et seq.).
- d) Handling Regulated Hazardous Wastes
- 1) If any regulated hazardous wastes are identified by random load checking, or are otherwise discovered to be improperly deposited at the facility, the facility must promptly notify the Agency, the person responsible for shipping the wastes to the landfill, and the generator of the wastes, if known. Waste loads identical to the regulated hazardous waste identified through the random load checking which have not yet been deposited in the landfill must not be accepted. The area where the wastes are deposited must immediately be cordoned off from public access. The solid waste management facility must assure the cleanup, transportation and disposal of the waste at a permitted hazardous waste management facility.
 - 2) The party responsible for transporting the waste to the solid waste management facility must be responsible for the costs of proper cleanup, transportation, and disposal.
 - 3) Subsequent shipments by persons or sources found or suspected to be previously responsible for shipping regulated hazardous waste must be subject to the following special precautionary measures prior to the solid waste management facility accepting wastes. The operator must use precautionary measures such as questioning the driver concerning the waste contents prior to discharge and visual inspection during the discharge of the load at the working face or elsewhere.

BOARD NOTE: Subsections (a) through (c) are derived from 40 CFR 258.20 (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.324 Corrective Action Measures for MSWLF Units

- a) The owner or operator shall initiate an assessment of corrective action measures within 14 days of the following:
 - 1) The groundwater impact assessment, performed in accordance with subsection 811.319 (c), indicates that remedial action is needed; or
 - 2) The assessment monitoring, performed in accordance with subsection 811.319(b), indicates that a confirmed increase above the applicable groundwater quality standards of Section 811.320 is attributable to the solid waste disposal facility.
- b) The owner or operator shall complete the corrective action assessment within 90 days of initiating the assessment of corrective action measures in accordance with subsection (a).
- c) The owner or operator shall continue to monitor in accordance with the assessment monitoring program, as specified in Section 811.319(b).
- d) The assessment shall include an analysis of the effectiveness of various potential corrective action measures in meeting all of the requirements and objectives of the remedy, as described under Section 811.325, addressing at least the following:
 - 1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
 - 2) The time required to begin and complete the remedy;
 - 3) The costs of remedy implementation; and
 - 4) The institutional requirements, such as State or local permit requirements or other environmental or public health requirements, that may substantially affect implementation of the remedies.
- e) The owner or operator must discuss the results of the corrective action measures assessment prior to the selection of a remedy in a public meeting with interested and affected parties. Prior to the public meeting, the owner or operator of the MSWLF unit shall submit to the Agency a report describing the results of the corrective action measures assessment.

BOARD NOTE: Requirements of this Section are derived from 40 CFR 258.56 (1992).

(Source: Added in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.325 Selection of remedy for MSWLF Units

- a) Within 90 days of the completion of the corrective action measures assessment conducted under Section 811.324, the owner or operator of a MSWLF unit shall:
 - 1) Select a remedy based on the assessment results that, at a minimum, meets the requirements of subsection (b); and
 - 2) Submit to the Agency an application for a significant modification to the landfill permit describing the selected remedy and how it meets the standards set forth in subsection (b).
- b) Remedies selected under this Section must meet the following requirements:
 - 1) They must be protective of human health and the environment;
 - 2) They must attain the groundwater quality standards prescribed at Section 811.320;
 - 3) They must control the sources of release so as to reduce or eliminate, to the maximum extent practicable, further releases of constituents detected under the assessment monitoring into the environment that may pose a threat to human health or the environment; and
 - 4) They must comply with standards for management of wastes as specified in Section 811.326(d).
- c) In selecting a remedy that meets the requirements of subsection (b), the owner or operator shall consider the following evaluation factors:
 - 1) The long- and short-term effectiveness and protectiveness of the potential remedies, along with the degree of certainty that the remedy will prove successful based on consideration of the following factors:
 - A) The magnitude of reduction of existing risks;
 - B) The magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;
 - C) The type and degree of long-term management required, including monitoring, operation, and maintenance;

- D) Any short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;
 - E) The length of time until full protection is achieved;
 - F) Any potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;
 - G) The long-term reliability of engineering and institutional controls; and
 - H) The potential need for replacement of the remedy.
- 2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:
- A) The extent to which containment practices will reduce further releases; and
 - B) The extent to which treatment technologies may be used.
- 3) The ease or difficulty of implementing potential remedies based on consideration of the following types of factors:
- A) The degree of difficulty associated with constructing the technology;
 - B) The expected operational reliability of the technologies;
 - C) The need to coordinate with and obtain necessary approvals and permits from other agencies;
 - D) The availability of necessary equipment and specialists; and
 - E) The available capacity and location of needed treatment, storage, and disposal services.
- 4) The practicable capability of the owner or operator to implement the remedies, including a consideration of the technical and economic capability.

- 5) The degree to which community concerns are addressed by potential remedies.
- d) Schedule for implementing remedial action.
- 1) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time, taking into consideration the factors set forth in subsections (d)(3)(A) through (d)(3)(H).
 - 2) The Agency shall specify the time period for initiating remedial action in the facility's permit.
 - 3) The owner or operator shall consider the following factors in determining the schedule of remedial activities:
 - A) The extent and nature of contamination;
 - B) The practical capabilities of remedial technologies in achieving compliance with the groundwater quality standards established under Section 811.320 and other objectives of the remedy;
 - C) The availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
 - D) The desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;
 - E) Any potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
 - F) Any resource value of the aquifer including:
 - i) Any current and future uses;
 - ii) The proximity and withdrawal rate of users;
 - iii) The ground-water quantity and quality;
 - iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

- v) The hydrogeologic characteristic of the facility and surrounding land;
 - vi) The ground-water removal and treatment costs;
 - vii) The cost and availability of alternative water supplies;
 - G) The practicable capability of the owner or operator to implement the remedies; and
 - H) Any other relevant factors.
- e) The Agency shall determine that remediation of a release of one or more constituents monitored in accordance with Section 811.319 from a MSWLF unit is not necessary if the owner or operator demonstrates to the Agency that:
- 1) The groundwater is additionally contaminated by substances that have originated from a source other than the MSWLF unit and those substances are present in such concentrations that cleanup of the release from the MSWLF unit would provide no significant reduction in risk to actual or potential receptors; or
 - 2) The constituents are present in groundwater that:
 - A) Is not currently or reasonably expected to be a source of drinking water; and
 - B) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in concentrations that would exceed the groundwater quality standards established under Section 811.320; or
 - 3) The remediation of the release is technically impracticable; or
 - 4) The remediation results in unacceptable cross-media impacts.
- f) A determination by the Agency pursuant to subsection (e) shall not affect the Agency's authority to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and which reduce threats to human health or the environment.

BOARD NOTE: The requirements of this Section are derived from 40 CFR 258.57 (1992).

(Source: Added in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.326 Implementation of the corrective action program at MSWLF Units

- a) Based on the schedule established pursuant to Section 811.325(d) for initiation and completion of corrective action, the owner or operator must fulfill the following requirements:
 - 1) It must establish and implement a corrective action groundwater monitoring program that fulfills the following requirements:
 - A) At a minimum, the program must meet the requirements of an assessment monitoring program pursuant to Section 811.319(b);
 - B) The program must indicate the effectiveness of the remedy; and
 - C) The program must demonstrate compliance with groundwater protection standards pursuant to subsection (e).
 - 2) It must implement the remedy selected pursuant to Section 811.325.
 - 3) It must take any interim measures necessary to ensure the adequate protection of human health and the environment. The interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to Section 811.325. The owner or operator must consider the following factors in determining whether interim measures are necessary:
 - A) The time required to develop and implement a final remedy;
 - B) Any actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;
 - C) Any actual or potential contamination of drinking water supplies or sensitive ecosystems;
 - D) Any further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;
 - E) The weather conditions that may cause hazardous constituents to migrate or be released;
 - F) Any risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

- G) Any other situations that may pose threats to human health and the environment.
- b) If an owner or operator determines, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of Section 811.325(b) are not being achieved through the remedy selected, the owner or operator must fulfill the following requirements:
 - 1) It must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination pursuant to subsection (c).
 - 2) It must submit to the Agency, prior to implementing any alternative methods pursuant to subsection (b)(1), an application for a significant modification to the permit describing the alternative methods or techniques and how they meet the standards of Section 811.325(b).
- c) If the owner or operator determines that compliance with the requirements of Section 811.325(b) cannot be practically achieved with any currently available methods, the owner or operator must fulfill the following requirements:
 - 1) It must obtain the certification of a qualified groundwater scientist or a determination by the Agency that compliance with requirements pursuant to Section 811.325(b) cannot be practically achieved with any currently available methods.
 - 2) It must implement alternative measures to control exposure of humans or the environment to residual contamination, as necessary to adequately protect human health and the environment.
 - 3) It must implement alternative measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that fulfill the following requirements:
 - A) The measures are technically practicable; and
 - B) The measures are consistent with the overall objective of the remedy.
 - 4) It must submit to the Agency, prior to implementing the alternative measures in accordance with subsection (c), an application for a significant modification to the permit justifying the alternative measures.
 - 5) For purposes of this Section, a “qualified groundwater scientist” is a scientist or an engineer who has received a baccalaureate or postgraduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by state registration, professional certifications, or

completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

- d) All solid wastes that are managed pursuant to Section 811.325 or subsection (a)(3) must be managed by the owner or operator in a manner that fulfills the following requirements:
 - 1) It adequately protects human health and the environment; and
 - 2) It complies with applicable requirements of this Part.
- e) Remedies selected pursuant to Section 811.325 must be considered complete when the following requirements are fulfilled:
 - 1) The owner or operator complies with the groundwater quality standards established pursuant to Section 811.320 at all points within the plume of contamination that lie beyond the zone of attenuation established pursuant to Section 811.320;
 - 2) Compliance with the groundwater quality standards established pursuant to Section 811.320 has been achieved by demonstrating that concentrations of the constituents monitored under the assessment monitoring program pursuant to Section 811.319(b) have not exceeded the groundwater quality standards for a period of three consecutive years using the statistical procedures and performance standards in Section 811.320(e). The Agency may specify an alternative time period during which the owner or operator must demonstrate compliance with the groundwater quality standards. The Agency must specify such an alternative time period by considering the following factors:
 - A) The extent and concentration of the releases;
 - B) The behavior characteristics of the hazardous constituents in the groundwater;
 - C) The accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and
 - D) The characteristics of the groundwater; and
 - 3) All actions required to complete the remedy have been satisfied.
- f) Within 14 days after the completion of the remedy, the owner or operator must submit to the Agency an application for a significant modification of the permit including a certification that the remedy has been completed in compliance with

the requirements of subsection (e). The certification must be signed by the owner or operator and by a qualified groundwater scientist.

- g) Upon Agency review and approval of the certification that the corrective action has been completed, in accordance with subsection (e), the Agency must release the owner or operator from the financial assurance requirements for corrective action pursuant to Subpart G.

BOARD NOTE: Requirements of this Section are derived from 40 CFR 258.58 (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

SUBPART D: MANAGEMENT OF SPECIAL WASTES AT LANDFILLS

Section 811.401 Scope and Applicability

- a) This Subpart applies to all landfills permitted by the Agency pursuant to Section 21 of the Act, including landfills operated on-site, with or without a permit, that accept special wastes.
- b) The standards of this Subpart apply in addition to the standards of 35 Ill. Adm. Code 809.
- c) Inspection, testing or acceptance of waste by a solid waste management facility shall not relieve the generator or transporter of responsibility for compliance with the requirements of 35 Ill. Adm. Code: Subtitle G.

SUBPART D: MANAGEMENT OF SPECIAL WASTES AT LANDFILLS

Section 811.402 Notice to Generators and Transporters

A prominent sign at the entrance to each solid waste management facility shall state that disposal of hazardous waste is prohibited and, if it is a facility permitted by the Agency to accept special wastes pursuant to 35 Ill. Adm. Code 808, also state that special waste will be accepted only if accompanied by an identification record and a manifest, unless such waste is exempted from the manifest requirements of this Part and 35 Ill. Adm. Code 809.Subpart E.

(Source: Amended at 23 Ill. Reg. 6880, effective July 1, 1999)

Section 811.403 Special Waste Manifests

- a) Each special waste accepted for disposal at a permitted solid waste management facility shall be accompanied by a manifest containing the following information, unless such special waste is disposed at an onsite facility and exempted, in

accordance with 35 Ill. Adm. Code 809.311 from the manifest requirement:

- 1) The name of the generator of the special waste;
 - 2) When and where the special waste was generated;
 - 3) The name of the special waste transporter;
 - 4) The name of the solid waste management facility to which it is shipped as a final destination point;
 - 5) The date of delivery;
 - 6) The name, waste stream permit number (if applicable) and quantity of special waste delivered to the transporter;
 - 7) The signature of the person who delivered the special waste to the special waste transporter, acknowledging such delivery;
 - 8) The signature of the special waste transporter, acknowledging receipt of the special wastes; and
 - 9) The signature of the person who accepted the special waste at its final destination, acknowledging acceptance of the special waste.
- b) A permitted facility that accepts special waste must be designated on the manifest as the final destination point. Any subsequent delivery of the special waste or any portion or product thereof to a special waste transporter shall be conducted under a transportation record initiated by the permitted solid waste management facility.
- c) Distribution of Manifests After Delivery
- 1) The receiving solid waste management facility, shall accept special waste only if accompanied by three copies of the manifest from the transporter. The transporter shall retain one copy.
 - 2) The receiving solid waste management facility shall:
 - A) Send one copy of the completed transportation record to the person who delivered the special waste to the special waste transporter (usually the generator, or another special waste management facility);
 - B) Send one copy of each signed manifest to the Agency in accordance with the requirements of 35 Ill. Adm. Code 809; and

- C) Send information on rejected loads to the Agency in a quarterly report.
- d) Every person who delivers special waste to a special waste transporter, every person who accepts special waste from a special waste transporter and every special waste transporter shall retain a copy of the special waste transportation record for each special waste transaction. These copies shall be retained for three years, and shall be made available at reasonable times for inspection and photocopying by the Agency pursuant to Section 4(d) of the Act.

(Source: Amended at 23 Ill. Reg. 6880, effective July 1, 1999)

Section 811.404 Identification Record

- a) Each special waste disposed of at a facility (including special wastes generated at the facility) must be accompanied by a special waste profile identification sheet, from the waste generator, that certifies the following:
 - 1) The generator's name and address;
 - 2) The transporter's name and telephone number;
 - 3) The name of waste;
 - 4) The process generating the waste;
 - 5) Physical characteristics of waste (e.g., color, odor, solid or liquid, flash point);
 - 6) The chemical composition of the waste;
 - 7) The metals content of the waste;
 - 8) Hazardous characteristics (including identification of wastes deemed hazardous by the United States Environmental Protection Agency or the State);
 - 9) Presence of polychlorinated biphenyls (PCBs) or 2,3,7,8-tetrachlorodibenzodioxin (2,3,7,8-TCDD); and
 - 10) Any other information, such as the result of any test carried out in accordance with Section 811.202, that can be used to determine:
 - A) Whether the special waste is regulated as a hazardous waste, as defined at 35 Ill. Adm. Code 721;

- B) Whether the special waste is of a type that is permitted for or has been classified, in accordance with 35 Ill. Adm. Code 809, for storage, treatment, or disposal at the facility; and
- C) Whether the method of storage, treatment, or disposal, using the methods available at the facility, is appropriate for the waste.

b) Special Waste Recertification

Each subsequent shipment of a special waste from the same generator must be accompanied by a transportation record in accordance with 35 Ill. Adm. Code 811.403(b), a copy of the original special waste profile identification sheet, and either:

- 1) A special waste recertification by the generator describing whether there have been changes in the following:
 - A) Laboratory analysis (copies to be attached);
 - B) Raw material in the waste-generating process;
 - C) The waste-generating process itself;
 - D) The physical or hazardous characteristics of the waste; and
 - E) New information on the human health effects of exposure to the waste; or
- 2) Certification indicating that any change in the physical or hazardous characteristic of the waste is not sufficient to require a new special waste profile.

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.405 Recordkeeping Requirements

The solid waste management facility operator shall retain copies of any special waste profile identification sheets, special waste recertifications, certifications of representative sample, special waste laboratory analyses, special waste analysis plans, and any waivers of requirements (prohibitions, special waste management authorization, and operating requirements) at the facility until the end of the postclosure care period.

Section 811.406 Procedures for Excluding Regulated Hazardous Wastes

The operator shall implement a load checking program that meets the requirements of Section 811.323 for detecting and discouraging attempts to dispose of regulated hazardous wastes at the facility.

SUBPART E: CONSTRUCTION QUALITY ASSURANCE PROGRAMS

Section 811.501 Scope and Applicability

All structures necessary to comply with the requirements of this Part shall be constructed according to a construction quality assurance program that, at a minimum, meets the requirements of this Subpart.

Section 811.502 Duties and Qualifications of Key Personnel

- a) Duties and Qualifications of the Operator
The operator shall designate a third party contractor, a person other than the operator or an employee of the operator, as the construction quality assurance (CQA) officer.
- b) Duties and Qualifications of the CQA officer
 - 1) The CQA officer shall supervise and be responsible for all inspections, testing and other activities required to be implemented as part of the CQA program under this Subpart.
 - 2) The CQA officer shall be a professional engineer.

Section 811.503 Inspection Activities

- a) The CQA officer shall be present to provide supervision and assume responsibility for performing all inspections of the following activities:
 - 1) Compaction of the subgrade and foundation to design parameters;
 - 2) Installation of the compacted earth liner;
 - 3) Installation of a geomembrane;
 - 4) Installation of slurry trenches or cutoff walls;
 - 5) Installation of the leachate drainage and collection system;

- 6) Application of final cover;
 - 7) Installation of gas control facilities; and
 - 8) Construction of ponds, ditches, lagoons and berms.
- b) If the CQA officer is unable to be present to perform, as required by subsection (a), the CQA officer shall provide, in writing, reasons for his absence, a designation of a person who shall exercise professional judgment in carrying out the duties of a CQA officer as the designated CQA officer-in-absentia, and a signed statement that the CQA officer assumes full personal responsibility for all inspections performed and reports prepared by the designated CQA officer-in-absentia during the absence of the CQA.

Section 811.504 Sampling Requirements

A sampling program shall be implemented as part of the CQA plan, for all construction activities, in order to ensure, at a minimum, that construction materials and operations meet the following requirements:

- a) The sampling program shall be designed prior to construction.
- b) The sampling program shall be based upon statistical sampling techniques and shall establish and specify criteria for acceptance or rejection of materials and operations.

Section 811.505 Documentation

- a) A daily summary report shall be prepared by the CQA officer, or under the direct supervision of the CQA officer, during each day of activity. The report shall contain, at a minimum:
 - 1) The date;
 - 2) A summary of the weather conditions;
 - 3) A summary of locations where construction is occurring;
 - 4) Equipment and personnel on the project;
 - 5) A summary of any meetings held and attendees;
 - 6) A description of all materials used and references or results of testing and documentation;

- 7) The calibration and recalibration of test equipment;
- 8) The daily inspection report from each inspector.

b) Daily Inspection Reports

Each inspector shall complete a daily inspection report containing the following information:

- 1) The location;
- 2) The type of inspection;
- 3) The procedure used;
- 4) Test data;
- 5) The results of the activity;
- 6) Personnel involved in the inspection and sampling activities; and
- 7) The signature of the inspector.

c) Photographic Records

Photographs may be used as tools to document the progress and acceptability of the work and may be incorporated into the daily summary report, daily inspection report, and an acceptance report. Each photo shall be identified with the following information:

- 1) The date, time and location of photograph;
- 2) The name of photographer; and
- 3) The signature of photographer.

d) Acceptance Reports

Upon completion of the construction of each major phase, the CQA officer shall submit an acceptance report to the Agency. The acceptance report shall be submitted before the structure is placed into service and shall contain the following:

- 1) A certification by the CQA officer that the construction has been prepared and constructed in accordance with the engineering design;

- 2) As-built drawings; and
- 3) All daily summary reports.

Section 811.506 Foundations and Subbases

- a) The CQA officer shall identify and ensure the site investigation is carried out in accordance with the plans, identify unexpected conditions and record all modifications to the plans and construction procedures on the as-built drawings.
- b) The CQA officer shall observe soil and rock surfaces for joints, fractures and depressions, document the filling of all joints and fractures and document the removal and filling of local sand deposits on the as-built drawings.
- c) The CQA officer shall ensure that there are no moisture seeps and that all soft, organic or other undesirable materials are removed.

Section 811.507 Compacted Earth Liners

- a) Requirements for a Test Liner

A test fill shall be constructed before construction of the actual, full-scale compacted earth liner, in accordance with the following requirements:

- 1) The test liner shall be constructed from the same soil material, design specifications, equipment and procedures as are proposed for the full-scale liner;
- 2) The test fill shall be at least four times the width of the widest piece of equipment to be used;
- 3) The test fill shall be long enough to allow the equipment to reach normal operating speed before reaching the test area;
- 4) At least three lifts shall be constructed;
- 5) The test fill shall be tested as described below for each of the following physical properties using tests to ensure a statistically valid sample size:
 - A) Field testing techniques shall be used to determine the hydraulic conductivity.

- B) Samples shall also be tested in the laboratory for hydraulic conductivity. The laboratory results shall be evaluated to determine if there is a statistical correlation to the field testing results.
 - C) Other engineering parameters, including but not limited to particle size distribution, plasticity, water content, and in-place density, that are needed to evaluate the full-scale liner shall be determined.
- 6) Additional test fills shall be constructed for each time the material properties of a new borrow source changes or for each admixture or change in equipment or procedures; and
- b) Construction of a test fill or the requirements for an additional test fill may be omitted if a full-scale liner or a test fill has been previously constructed in compliance with this subsection and documentation and is available to demonstrate that the previously constructed liner meets the requirements of subsection (a).
- c) The CQA officer shall inspect the construction and testing of test fills to ensure that the requirements of subsection (a) are met. During construction of the actual, full-scale compacted earth liner, the CQA officer shall ensure the following:
 - 1) Use of same compaction equipment as used in test fill;
 - 2) Use of same procedures, such as number of passes and speed;
 - 3) Uniformity of coverage by compaction equipment;
 - 4) Consistent achievement of density, water content and permeability of each successive lift;
 - 5) Use of methods to bond successive lifts together;
 - 6) Achievement of liner strength on sidewalls;
 - 7) Contemporaneous placement of protective covering to prevent drying and desiccation, where necessary;
 - 8) Prevention of the placement of frozen material or the placement of material on frozen ground;
 - 9) Prevention of damage to completed liner sections; and
 - 10) That construction proceeds only during favorable climatic conditions.

Section 811.508 Geomembranes

The CQA officer shall exercise professional judgement to certify the following:

- a) That the bedding material contains no undesirable objects;
- b) That the placement plan has been followed;
- c) That the anchor trench and backfill are constructed to prevent damage to the geomembrane;
- d) That all tears, rips, punctures, and other damage are repaired; and
- e) That all geomembrane seams are properly constructed and tested in accordance with manufacturer's specifications.

Section 811.509 Leachate Collection Systems

- a) The CQA officer shall exercise professional judgement to certify that pipe sizes, material, perforations, placement and pipe grades are in accordance with the design.
- b) The CQA officer shall exercise professional judgement to certify that all soil materials used for the drainage blanket and graded filters meet the required size and gradation specifications in the design plan and are placed in accordance with the design plans.
- c) The CQA officer shall inspect all prefabricated structures for conformity with design specifications and for defective manufacturing.

SUBPART G: FINANCIAL ASSURANCE

Section 811.700 Scope, Applicability and Definitions

- a) This Subpart provides procedures by which the owner or operator of a permitted waste disposal facility provides financial assurance satisfying the requirements of Section 21.1(a) of the Act.
- b) Financial assurance shall be provided, as specified in Section 811.706, by a trust agreement, a bond guaranteeing payment, a bond guaranteeing payment or performance, a letter of credit, insurance or self-insurance. The owner operator shall provide financial assurance to the Agency before the receipt of the waste.

- c) Except as provided in subsection (f), this Subpart does not apply to the State of Illinois, its agencies and institutions, or to any unit of local government; provided, however, that any other persons who conduct such a waste disposal operation on a site that is owned or operated by such a governmental entity shall provide financial assurance for closure and post-closure care of the site.
- d) The owner or operator is not required to provide financial assurance pursuant to this Subpart if the owner or operator demonstrates:
 - 1) That closure and post-closure care plans filed pursuant to 35 Ill. Adm. Code 724 or 725 will result in closure and post-closure care of the site in accordance with the requirements of this Part; and
 - 2) That the owner or operator has provided financial assurance adequate to provide for such closure and post-closure care pursuant to 35 Ill. Adm. Code 724 or 725.
- e) Definition: "Assumed closure date" means the point in time when the extent and manner of the facility's development, as permitted for operation in accordance with 35 Ill. Adm. Code 813.203 when applicable, would make closure the most expensive.
- f) On or after April 9, 1997, no person, other than the State of Illinois, its agencies and institutions, shall conduct any disposal operation at an MSWLF unit that requires a permit under Section 21(d) of the Act, unless that person complies with the financial assurance requirements of this Part.
- g) The Board will grant a variance pursuant to Sections 35 through 38 of the Act and 35 Ill. Adm. Code 104 that allows a facility to operate not in compliance with the otherwise applicable requirements of this Section for up to one year, until April 9, 1998, for good cause, if it determines that an owner or operator has demonstrated that the prior April 9, 1997 effective date for the requirements of this Section did not provide sufficient time to comply and that operating not in compliance with the otherwise applicable provisions of this Section would not adversely affect human health or the environment.

BOARD NOTE: Subsection (f) clarifies the applicability of the financial assurance requirements to units of local government, since the Subtitle D regulations exempt only federal and state governments from financial assurance requirements. (See 40 CFR 258.70 (1996).) P.A. 89-200, signed by the Governor on July 21, 1995 and effective January 1, 1996, amended the deadline for financial assurance for MSWLFs from April 9, 1995 to the date that the federal financial assurance requirements actually become effective, which was April 9, 1997. On November 27, 1996 (61 Fed. Reg. 60327), USEPA added 40 CFR 258.70(c) (1996), codified here as subsection (g), to allow states to waive the compliance deadline until April 9, 1998.

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.701 Upgrading Financial Assurance

- a) The owner or operator shall maintain financial assurance equal to or greater than the current cost estimate calculated pursuant to Section 811.704 at all times, except as otherwise provided by subsection (b).
- b) The owner or operator shall increase the total amount of financial assurance so as to equal the current cost estimate within 90 days after any of the following occurrences:
 - 1) An increase in the current cost estimate;
 - 2) A decrease in the value of a trust fund;
 - 3) A determination by the Agency that an owner or operator no longer meets the gross revenue test of Section 811.715(d) or the financial test of Section 811.715(e); or,
 - 4) Notification by the owner or operator that the owner or operator intends to substitute alternative financial assurance, as specified in Section 811.706, for self-insurance.
- c) The owner or operator of a MSWLF unit shall annually make adjustments for inflation if required pursuant to Section 811.704(k)(2) or 811.705(d).

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.702 Release of Financial Institution

The Agency shall release a trustee, surety, insurer or other financial institution when:

- a) An owner or operator substitutes alternative financial assurance such that the total financial assurance for the site is equal to or greater than the current cost estimate, without counting the amounts to be released; or
- b) The Agency releases the owner or operator from the requirements of this Subpart pursuant to 35 Ill. Adm. Code 813.403(b).

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.703 Application of Proceeds and Appeals

- a) The Agency may sue in any court of competent jurisdiction to enforce its rights under financial instruments. The filing of an enforcement action before the Board is not a condition precedent to such an Agency action, except when this Subpart or the terms of the instrument provide otherwise.
- b) As provided in Titles VIII and IX of the Act and 35 Ill. Adm. Code 103 and 104, the Board may order modifications in permits to change the type or amount of financial assurance pursuant to an enforcement action or a variance petition. Also, the Board may order that an owner or operator modify a closure or post-closure care plan or order that proceeds from financial assurance be applied to the execution of a closure or post-closure care plan.
- c) The following Agency actions may be appealed to the Board as a permit denial pursuant to 35 Ill. Adm. Code 105 and Section 21.1(e) of the Act:
 - 1) A refusal to accept financial assurance tendered by the owner or operator;
 - 2) A refusal to release the owner or operator from the requirement to maintain financial assurance;
 - 3) A refusal to release excess funds from a trust;
 - 4) A refusal to approve a reduction in the penal sum of a bond;
 - 5) A refusal to approve a reduction in the amount of a letter of credit;
 - 6) A refusal to approve a reduction in the face amount of an insurance policy; or
 - 7) A determination that an owner or operator no longer meets the gross revenue test or financial test.

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.704 Closure and Post-Closure Care and Corrective Action Cost Estimates

- a) Written cost estimate. The owner or operator must have a written estimate of the cost of closure of all parts of the facility where wastes have been deposited in accordance with the requirements of this Part; the written closure plan, required by Section 811.110 and 35 Ill. Adm. Code 812.114; and the cost of post-closure care and plans, required by this Part and the written post-closure care plans required by 35 Ill. Adm. Code 812.115. The cost estimate is the total cost for closure and post-closure care.

- b) The owner or operator must revise the cost estimate whenever a change in the closure plan or post-closure care plan increases the cost estimate.
- c) The cost estimate must be based on the steps necessary for the premature final closure of the facility on the assumed closure date.
- d) The cost estimate must be based on the assumption that the Agency will contract with a third party to implement the closure plan.
- e) The cost estimate may not be reduced by allowance for the salvage value of equipment or waste, for the resale value of land, or for the sale of landfill gas.
- f) The cost estimate must, at a minimum, include all costs for all activities necessary to close the facility in accordance with all requirements of this Part.
- g) The Board removed this subsection (g) and revised Section 811.718 to disallow discounting for all financial assurance mechanisms but trust funds. This statement maintains structural consistency for cross-references in this Part to subsections (h), (j), and (k).
- h) The post-closure care cost estimate must, at a minimum, be based on the following elements in the post-closure care plan:
 - 1) Groundwater monitoring, based on the number of monitoring points and parameters and the frequency of sampling specified in the permit.
 - 2) The annual cost of cover placement and stabilization, including an estimate of the annual residual settlement and erosion control and the cost of mowing.
 - 3) Alternative Landfill Gas Disposal. If landfill gas is transported to an off-site processing system, then the owner or operator must include in the cost estimate the costs necessary to operate an onsite gas disposal system, should access to the off-site facility become unavailable. The cost estimate must include the following information: installation, operation, maintenance and monitoring of an on-site gas disposal system.
 - 4) Cost Estimates Beyond the Design Period. When a facility must extend the post-closure care period beyond the applicable design period, the cost estimate must be based upon such additional time and the care activities occurring during that time.
- i) This Section does not authorize the Agency to require the owner or operator to perform any of the indicated activities upon which cost estimates are to be based; however, if the site permit requires a closure activity, the owner or operator must include the cost of that activity in the cost estimate.

- j) Once the owner or operator has completed an activity, the owner or operator may file an application for significant permit modification pursuant to 35 Ill. Adm. Code 813.201 indicating that the activity has been completed, and zeroing that element of the cost estimate.
- k) Cost Estimate for Corrective Action at MSWLF Units
 - 1) An owner or operator of a MSWLF unit required to undertake a corrective action program pursuant to Section 811.326 must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the Section 811.326. The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator must notify the Agency that the estimate has been placed in the operating record.
 - 2) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with Section 811.326(f).
 - 3) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided pursuant to subsections (k)(5) and (k)(6) if changes in the corrective action program or MSWLF unit conditions increase the maximum costs of corrective action.
 - 4) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided pursuant to subsections (k)(5) and (k)(6) if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the Agency that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record.
 - 5) The owner or operator of each MSWLF unit required to undertake a corrective action program under Section 811.326 must establish, in accordance with Section 811.706, financial assurance for the most recent corrective action program.
 - 6) The owner or operator must provide continuous coverage for corrective action until released from the financial assurance requirements for corrective action by demonstrating compliance with Section 811.326 (f) and (g).

BOARD NOTE: Subsection (k) is derived from 40 CFR 258.73 (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.705 Revision of Cost Estimate

- a) The owner or operator shall revise the current cost estimates for closure and postclosure care in each new application for permit renewal or where a facility modification results in an increase of the cost estimate.
- b) The owner or operator shall review the closure and postclosure care plans prior to filing a revised cost estimate in order to determine whether they are consistent with current operations, and the requirements of this Subchapter. The owner or operator shall either certify that the plans are consistent, or shall file an application incorporating new plans pursuant to 35 Ill. Adm. Code 813.
- c) The owner or operator shall prepare new closure and postclosure cost estimates reflecting current prices for the items included in the estimates when submitting any new application for permit renewal. The owner or operator shall file revised estimates even if the owner or operator determines that there are no changes in the prices.
- d) The owner or operator of a MSWLF unit shall adjust the cost estimates of closure, postclosure, and corrective action for inflation on an annual basis during the following time period:
 - 1) The active life of the unit for closure;
 - 2) The active life and postclosure care period, for postclosure; or
 - 3) Until the corrective action program is completed in accordance with Section 811.326, for corrective action.

BOARD NOTE: Subsection (d) is derived from 40 CFR 258.71(a)(2) (1992).

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.706 Mechanisms for Financial Assurance

- a) The owner or operator of a waste disposal site shall utilize any of the mechanisms listed in subsections (a)(1) through (a)(10) to provide financial assurance for closure and post-closure care, and for corrective action at an MSWLF unit. An owner or operator of an MSWLF unit shall also meet the requirements of subsections (b), (c), and (d). The mechanisms are as follows:
 - 1) A trust fund (see Section 811.710);
 - 2) A surety bond guaranteeing payment (see Section 811.711);

- 3) A surety bond guaranteeing performance (see Section 811.712);
 - 4) A letter of credit (see Section 811.713);
 - 5) Closure insurance (see Section 811.714);
 - 6) Self-insurance (see Section 811.715);
 - 7) Local government financial test (see Section 811.716);
 - 8) Local government guarantee (see Section 811.717);
 - 9) Corporate financial test (see Section 811.719); or
 - 10) Corporate guarantee (see Section 811.720).
- b) The owner or operator of an MSWLF unit shall ensure that the language of the mechanisms listed in subsection (a), when used for providing financial assurance for closure, post-closure, and corrective action, satisfies the following:
- 1) The amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action; and
 - 2) The funds will be available in a timely fashion when needed.
- c) The owner or operator of an MSWLF unit shall provide financial assurance utilizing one or more of the mechanisms listed in subsection (a) within the following dates:
- 1) By April 9, 1997, or such later date granted pursuant to Section 811.700(g), or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care; or
 - 2) No later than 120 days after the remedy has been selected in accordance with the requirements of Section 811.325, in the case of corrective action.
- d) The owner or operator shall provide continuous coverage until the owner or operator is released from the financial assurance requirements pursuant to 35 Ill. Adm. Code 813.403(b) or Section 811.326.

BOARD NOTE: Subsections (b) and (c) are derived from 40 CFR 258.74(1) (1996). Amendments prompted by amendments to 40 CFR 258.74(a)(5) (1996). P.A. 89-200, signed by the Governor on July 21, 1995 and effective January 1, 1996, amended the deadline for financial assurance for MSWLFs from April 9, 1995 to the date that the federal financial assurance requirements actually become effective, which was April 9,

1997. On November 27, 1996 (61 Fed. Reg. 60327), USEPA added 40 CFR 258.70(c) (1996), codified here as Section 811.700(g), to allow states to waive the compliance deadline until April 9, 1998.

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.707 Use of Multiple Financial Mechanisms

An owner or operator may satisfy the requirements of this Subpart by establishing more than one financial mechanism per site. These mechanisms are limited to trust funds, surety bonds guaranteeing payment, letters of credit and insurance. The mechanisms must be as specified in 35 Ill. Adm. Code 811.710, 811.711, and 811.713 through 811.720, as applicable, except that it is the combination of mechanisms, rather than the single mechanism, that must provide financial assurance for an aggregate amount at least equal to the current cost estimate for closure, post-closure care or corrective action, except that mechanisms guaranteeing performance, rather than payment, may not be combined with other instruments. The owner or operator may use any or all of the mechanisms to provide for closure and postclosure care of the site or corrective action.

(Source: Amended at 23 Ill. Reg. 2794, effective February 17, 1999)

Section 811.708 Use of a Financial Mechanism for Multiple Sites

An owner or operator may use a financial assurance mechanism specified in this Subpart to meet the requirements of this Subpart for more than one site. Evidence of financial assurance submitted to the Agency must include a list showing, for each site, the name, address and the amount of funds assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each site. The amount of funds available to the Agency must be sufficient to close and provide postclosure care for all of the owner or operator's sites. In directing funds available through a single mechanism for the closure and postclosure care of any single site covered by that mechanism, the Agency shall direct only that amount of funds designated for that site, unless the owner or operator agrees to the use of additional funds available under that mechanism.

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.709 Trust Fund for Unrelated Sites

Any person may establish a trust fund for the benefit of the Agency which may receive funds from more than one owner or operator for closure of different sites. Such a trust fund must operate like the trust fund specified in 35 Ill. Adm. Code 807.710, except as follows:

- a) The trustee shall maintain a separate account for each site and shall evaluate such annually as of the day of creation of the trust;
- b) The trustee shall annually notify each owner or operator and the Agency of the evaluation of each owner or operator's account;
- c) The trustee shall release excess funds as required from the account for each site;
- d) The trustee shall reimburse the owner or operator or other person authorized to perform closure or postclosure care only from the account for that site.
- e) The Agency may direct the trustee to withhold payments only from the account for the site for which it has determined the cost of closure and postclosure care will be greater than the value of the account for that site pursuant to Section 811.710(g)(3).

(Source: Amended in R93-10 at 18 Ill. Reg. 1308, effective January 13, 1994)

Section 811.710 Trust Fund

- a) An owner or operator may satisfy the requirements of this Subpart G by establishing a trust fund that conforms to the requirements of this Section and submitting an original signed duplicate of the trust agreement to the Agency.
- b) The trustee must be an entity that has the authority to act as a trustee and of whom either of the following is true:
 - 1) It is an entity whose trust operations are examined by the Illinois Department of Financial and Professional Regulation pursuant to the Illinois Banking Act [205 ILCS 5]; or
 - 2) It is an entity that complies with the Corporate Fiduciary Act [205 ILCS 620].
- c) The trust agreement must be on the forms specified in Appendix A, Illustration A of this Part, and the trust agreement must be accompanied by a formal certification of acknowledgement, on the form specified in Appendix A, Illustration B. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure, post-closure, and corrective action cost estimates covered by the agreement.
- d) Payments into the trust.
 - 1) For closure and post-closure care.

- A) The owner or operator must make a payment into the trust fund each year during the pay-in period.
- B) The pay-in period is the initial permit term or the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter.
- C) Annual payments are determined by the following formula:

$$\text{Annual payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

Where:

CE = Current cost estimate

CV = Current value of the trust fund

Y = Number of years remaining in the pay-in period.

- D) The owner or operator must make the first annual payment prior to the initial receipt of waste for disposal. The owner or operator must also, prior to initial receipt of waste, submit to the Agency a receipt from the trustee for the first annual payment.
 - E) Subsequent annual payments must be made no later than 30 days after each anniversary of the first payment.
 - F) The owner or operator may accelerate payments into the trust fund, or may deposit the full amount of the current cost estimate at the time the fund is established.
 - G) An owner or operator required to provide additional financial assurance for an increase in the cost estimate because of an amendment to this Subchapter i may provide such additional financial assurance pursuant to this subsection (d)(1)(G). The owner or operator may provide the increase by contributing to a new or existing trust fund pursuant to this Section. Subsection (d)(2) of this Section notwithstanding, the pay-in period for such additional financial assurance must be not less than three years.
- 2) For corrective action at MSWLF units.
- A) The owner or operator must make payments into the trust fund annually over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

- B) The owner or operator must make the first payment into the trust fund equal to at least one-half of the current cost estimate for corrective action divided by the number of years in the corrective action pay-in period, as defined in subsection (d)(2)(A) of this Section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{\text{RB}-\text{CV}}{\text{Y}}$$

Where:

RB = Most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period)

CV = Current value of the trust fund

Y = Number of years remaining in the pay-in period.

- C) The owner or operator must make the initial payment into the trust fund no later than 120 days after the remedy has been selected in accordance with the requirements of Section 811.325.

BOARD NOTE: Subsection (d) of this Section is partly derived from 40 CFR 258.74(a)(2), (a)(4), and (a)(5) (2005).

- e) The trustee must evaluate the trust fund annually, as of the day the trust was created or on such earlier date as may be provided in the agreement. The trustee must notify the owner or operator and the Agency of the value within 30 days after the evaluation date.
- f) If the owner or operator of a MSWLF unit establishes a trust fund after having used one or more alternative mechanisms specified in this Subpart G, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this Section.

BOARD NOTE: Subsection (f) of this Section is derived from 40 CFR 258.74(a)(6) (2005).

- g) Release of excess funds.
- 1) If the value of the financial assurance is greater than the total amount of the current cost estimate, the owner or operator may submit a written request to the Agency for a release of the amount in excess of the current cost estimate.

- 2) Within 60 days after receiving a request from the owner or operator for a release of funds, the Agency must instruct the trustee to release to the owner or operator such funds as the Agency specifies in writing to be in excess of the current cost estimate.
- h) Reimbursement for closure, post-closure care, and corrective action expenses.
- 1) After initiating closure or corrective action, an owner or operator, or any other person authorized to perform closure, post-closure care, or corrective action, may request reimbursement for closure, post-closure care, or corrective action expenditures, by submitting itemized bills to the Agency.
 - 2) Within 60 days after receiving the itemized bills for closure, post-closure care, or correction action activities, the Agency must determine whether the expenditures are in accordance with the closure, post-closure care, or corrective action plan. The Agency must instruct the trustee to make reimbursement in such amounts as the Agency specifies in writing as expenditures in accordance with the closure, post-closure care, or corrective action plan.
 - 3) If the Agency determines, based on such information as is available to it, that the cost of closure and post-closure care or corrective action will be greater than the value of the trust fund, it must withhold reimbursement of such amounts as it determines are necessary to preserve the fund in order to accomplish closure and post-closure care or corrective action until it determines that the owner or operator is no longer required to maintain financial assurance for closure and post-closure care or corrective action. In the event the fund is inadequate to pay all claims, the Agency must pay claims according to the following priorities:
 - A) Persons with whom the Agency has contracted to perform closure, post-closure care, or corrective action activities (first priority);
 - B) Persons who have completed closure, post-closure care, or corrective action authorized by the Agency (second priority);
 - C) Persons who have completed work that furthered the closure, post-closure care, or corrective action (third priority);
 - D) The owner or operator and related business entities (last priority).

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.711 Surety Bond Guaranteeing Payment

- a) An owner or operator may satisfy the requirements of this Subpart by obtaining a surety bond which conforms to the requirements of this Section and submitting the bond to the Agency. A surety bond obtained by an owner or operator of an MSWLF unit must be effective before the initial receipt of waste or before April 9, 1997 (the effective date of the financial assurance requirements under RCRA Subtitle D regulations), or such later date granted pursuant to Section 811.700(g), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the remedy has been selected in accordance with the requirements of Section 811.325.
- b) The surety company issuing the bond shall be *licensed to transact the business of insurance by the Department of Insurance*, pursuant to the Illinois Insurance Code [215 ILCS 5], *or at a minimum the insurer must be licensed to transact the business of insurance or approved to provide insurance as an excess or surplus lines insurer by the insurance department in one or more states*, and approved by the U.S. Department of the Treasury as an acceptable surety. [415 ILCS 5/21.1(a.5)]

BOARD NOTE: The U.S. Department of the Treasury lists acceptable sureties in its Circular 570.

- c) The surety bond must be on the forms specified in Appendix A, Illustration C.
- d) Any payments made under the bond will be placed in the Landfill Closure and Post-Closure fund within the State Treasury.
- e) Conditions:
 - 1) The bond must guarantee that the owner or operator will:
 - A) Provide closure and post-closure care in accordance with the approved closure and post-closure care plans and, if the bond is a corrective action bond, provide corrective action in accordance with Section 811.326; and
 - B) Provide alternative financial assurance, as specified in this Subpart, and obtain the Agency's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term.
 - 2) The surety will become liable on the bond obligation when, during the term of the bond, the owner or operator fails to perform as guaranteed by the bond. The owner or operator fails to perform when the owner or operator:

- A) Abandons the site;
- B) Is adjudicated bankrupt;
- C) Fails to initiate closure of the site or post-closure care or corrective action when ordered to do so by the Board pursuant to Title VIII of the Act, or when ordered to do so by a court of competent jurisdiction;
- D) Notifies the Agency that it has initiated closure or corrective action, or initiates closure or corrective action, but fails to close the site or provide post-closure care or corrective action in accordance with the closure and post-closure care or corrective action plans;
- E) For a corrective action bond, fails to implement corrective action at an MSWLF unit in accordance with Section 811.326; or
- F) Fails to provide alternative financial assurance, as specified in this Subpart, and obtain the Agency's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term.

f) Penal sum:

- 1) The penal sum of the bond must be in an amount at least equal to the current cost estimate.
- 2) Whenever the current cost estimate decreases, the penal sum may be reduced to the amount of the current cost estimate following written approval by the Agency.
- 3) Whenever the current cost estimate increases to an amount greater than the penal sum, the owner or operator, within 90 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current cost estimate and submit evidence of that increase to the Agency or obtain other financial assurance, as specified in this Subpart, to cover the increase and submit evidence of the alternative financial assurance to the Agency.

g) Term:

- 1) The bond must be issued for a term of at least one year and must not be cancelable during that term.

- 2) The surety bond must provide that, on the current expiration date and on each successive expiration date, the term of the surety bond will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the surety notifies both the owner and operator and the Agency by certified mail of a decision not to renew the bond. Under the terms of the surety bond, the 120 days will begin on the date when both the owner or operator and the Agency have received the notice, as evidenced by the return receipts.
 - 3) The Agency shall release the surety by providing written authorization for termination of the bond to the owner or operator and the surety when either of the following occurs:
 - A) An owner or operator substitutes alternative financial assurance, as specified in this Subpart; or
 - B) The Agency releases the owner or operator from the requirements of this Subpart in accordance with 35 Ill. Adm. Code 813.403(b).
- h) Cure of default and refunds:
- 1) The Agency shall release the surety if, after the surety becomes liable on the bond, the owner or operator or another person provides financial assurance for closure and post-closure care of the site or corrective action at an MSWLF unit, unless the Agency determines that the closure or post-closure care plan, corrective action at an MSWLF unit or the amount of substituted financial assurance is inadequate to provide closure and post-closure care or implement corrective action in compliance with this Part.
 - 2) After closure and post-closure care have been completed in accordance with the plans and requirements of this Part or after the completion of corrective action at an MSWLF unit in accordance Section 811.326, the Agency shall refund any unspent money which was paid into the "Landfill Closure and Post-Closure Fund" by the surety, subject to appropriation of funds by the Illinois General Assembly.

BOARD NOTE: MSWLF corrective action language at subsection (a) is derived from 40 CFR 258.74(b)(1) (1996). P.A. 89-200, signed by the Governor on July 21, 1995 and effective January 1, 1996, amended the deadline for financial assurance for MSWLFs from April 9, 1995 to the date that the federal financial assurance requirements actually become effective, which was April 9, 1997. On November 27, 1996 (61 Fed. Reg. 60337), USEPA added 40 CFR 258.70(c) (1996), codified here as Section 811.700(g), to allow states to waive the compliance deadline until April 9, 1998. The other clarifying changes reflect the inclusion of financial assurance requirements for implementing corrective action at MSWLF units under this Section.

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.712 Surety Bond Guaranteeing Performance

- a) An owner or operator may satisfy the requirements of this Subpart by obtaining a surety bond which conforms to the requirements of this Section and submitting the bond to the Agency. A surety bond obtained by an owner or operator of an MSWLF unit must be effective before the initial receipt of waste or before April 9, 1997 (the effective date of the financial assurance requirements under RCRA Subtitle D regulations), or such later date granted pursuant to Section 811.700(g), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the remedy has been selected in accordance with the requirements of Section 811.325.
- b) The surety company issuing the bond shall be *licensed to transact the business of insurance by the Department of Insurance*, pursuant to the Illinois Insurance Code [215 ILCS 5], *or at a minimum the insurer must be licensed to transact the business of insurance or approved to provide insurance as an excess or surplus lines insurer by the insurance department in one or more states*, and approved by the U.S. Department of the Treasury as an acceptable surety. [415 ILCS 5/21.1(a.5)]

BOARD NOTE: The U.S. Department of the Treasury lists acceptable sureties in its Circular 570.

- c) The surety bond must be on the forms specified in Appendix A, Illustration D.
- d) Any payments made under the bond will be placed in the Landfill Closure and Post-Closure Fund within the State Treasury.
- e) Conditions:
 - 1) The bond must guarantee that the owner or operator will:
 - A) Provide closure and post-closure care in accordance with the closure and post-closure care plans in the permit and, if the bond is a corrective action bond, provide corrective action in accordance with Section 811.326; and
 - B) Provide alternative financial assurance, as specified in this Subpart, and obtain the Agency's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term.
 - 2) The surety will become liable on the bond obligation when, during the term of the bond, the owner or operator fails to perform as guaranteed by

the bond. The owner or operator fails to perform when the owner or operator:

- A) Abandons the site;
 - B) Is adjudicated bankrupt;
 - C) Fails to initiate closure of the site or post-closure care or corrective action when ordered to do so by the Board pursuant to Title VIII of the Act, or when ordered to do so by a court of competent jurisdiction;
 - D) Notifies the Agency that it has initiated closure or corrective action, or initiates closure or corrective action, but fails to close the site or provide post-closure care or corrective action in accordance with the closure and post-closure care or corrective action plans.
 - E) For a corrective action bond, fails to implement corrective action at an MSWLF unit in accordance with Section 811.326; or
 - F) Fails to provide alternative financial assurance, as specified in this Subpart, and obtain the Agency's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term.
- 3) Upon failure of the owner or operator to perform as guaranteed by the bond, the surety shall have the option of:
- A) providing closure and post-closure care in accordance with the closure and post-closure care plans; or
 - B) carrying out corrective action in accordance with the corrective action plan; or
 - C) paying the penal sum.
- f) Penal sum:
- 1) The penal sum of the bond must be in an amount at least equal to the current cost estimate.
 - 2) Whenever the current cost estimate decreases, the penal sum may be reduced to the amount of the current cost estimate following written approval by the Agency.

- 3) Whenever the current cost estimate increases to an amount greater than the penal sum, the owner or operator, within 90 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current cost estimate and submit evidence of that increase to the Agency or obtain other financial assurance, as specified in this Subpart, and submit evidence of the alternative financial assurance to the Agency.

g) Term:

- 1) The bond must be issued for a term of at least one year and must not be cancelable during that term.
- 2) The surety bond must provide that, on the current expiration date and on each successive expiration date, the term of the surety bond will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the surety notifies both the owner or operator and the Agency by certified mail of a decision not to renew the bond. Under the terms of the surety bond, the 120 days will begin on the date when both the owner or operator and the Agency have received the notice, as evidenced by the return receipts.
- 3) The Agency shall release the surety by providing written authorization for termination of the bond to the owner or operator and the surety when either of the following occurs:
 - A) An owner or operator substitutes alternative financial assurance, as specified in this Subpart; or
 - B) The Agency releases the owner or operator from the requirements of this Subpart in accordance with 35 Ill. Adm. Code 813.403(b).

h) Cure of default and refunds:

- 1) The Agency shall release the surety if, after the surety becomes liable on the bond, the owner or operator or another person provides financial assurance for closure and post-closure care of the site or corrective action at an MSWLF unit, unless the Agency determines that the closure or post-closure care plan, corrective action at an MSWLF unit, or the amount of substituted financial assurance is inadequate to provide closure and post-closure care or implement corrective action at an MSWLF unit in compliance with this Part.
- 2) After closure and post-closure care have been completed in accordance with the closure and post-closure care plans and the requirements of this Part or after the completion of corrective action at an MSWLF unit in accordance with Section 811.326, the Agency shall refund any unspent

money which was paid into the "Landfill Closure and Post-Closure Fund" by the surety, subject to appropriation of funds by the Illinois General Assembly.

- i) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Agency releases the owner or operator from the requirements of this Subpart.

BOARD NOTE: MSWLF corrective action language at subsection (a) is derived from 40 CFR 258.74(b)(1) (1996). P.A. 89-200, signed by the Governor on July 21, 1995 and effective January 1, 1996, amended the deadline for financial assurance for MSWLFs from April 9, 1995 to the date that the federal financial assurance requirements actually become effective, which was April 9, 1997. On November 27, 1996 (61 Fed. Reg. 60337), USEPA added 40 CFR 258.70(c) (1996), codified here as Section 811.700(g), to allow states to waive the compliance deadline until April 9, 1998. The other clarifying changes reflect the inclusion of financial assurance requirements for implementing corrective action at MSWLF units under this Section.

(Source: Amended at 35 Ill. Reg. 18882, effective October 24, 2011)

Section 811.713 Letter of Credit

- a) An owner or operator may satisfy the requirements of this Subpart by obtaining an irrevocable standby letter of credit which conforms to the requirements of this Section and submitting the letter to the Agency. A letter of credit obtained by an owner or operator of an MSWLF unit must be effective before the initial receipt of waste or before April 9, 1997 (the effective date of the financial assurance requirements under RCRA Subtitle D regulations), or such later date granted pursuant to Section 811.700(g), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the remedy has been selected in accordance with the requirements of Section 811.325.
- b) The issuing institution shall be an entity that has the authority to issue letters of credit and:
 - 1) Whose letter-of-credit operations are regulated by the Illinois Department of Financial and Professional Regulation pursuant to the Illinois Banking Act [205 ILCS 5]; or
 - 2) Whose deposits are insured by the Federal Deposit Insurance Corporation.
- c) Forms:
 - 1) The letter of credit must be on the forms specified in Appendix A, Illustration E.

- 2) The letter of credit must be accompanied by a letter from the owner or operator, referring to the letter of credit by number, the name and address of the issuing institution, and the effective date of the letter, and providing the following information: the name and address of the site and the amount of funds assured for closure and post-closure care of the site, or for corrective action at an MSWLF unit by the letter of credit.
- d) Any amounts drawn by the Agency pursuant to the letter of credit will be deposited in the Landfill Closure and Post-Closure Fund within the State Treasury.
- e) Conditions on which the Agency shall draw on the letter of credit:
 - 1) The Agency shall draw on the letter of credit if the owner or operator fails to perform closure or post-closure care in accordance with the closure and post-closure care plans, or fails to implement corrective action at an MSWLF unit in accordance with Section 811.326.
 - 2) The Agency shall draw on the letter of credit when the owner or operator:
 - A) Abandons the site;
 - B) Is adjudicated bankrupt;
 - C) Fails to initiate closure of the site or post-closure care or corrective action when ordered to do so by the Board pursuant to Title VIII of the Act, or when ordered to do so by a court of competent jurisdiction;
 - D) Notifies the Agency that it has initiated closure or corrective action, or initiates closure or corrective action, but fails to Provide closure and post-closure care or corrective action in accordance with the closure and post-closure care or corrective action plans;
 - E) For a corrective action bond, fails to implement corrective action at an MSWLF unit in accordance with Section 811.326; or
 - F) Fails to provide alternative financial assurance, as specified in this Subpart, and obtain the Agency's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the Agency of a notice from the issuing institution that the letter of credit will not be extended for another term.
- f) Amount:

- 1) The letter of credit must be issued in an amount at least equal to the current cost estimate.
- 2) Whenever the current cost estimate decreases, the amount of credit may be reduced to the amount of the current cost estimate following written approval by the Agency.
- 3) Whenever the current cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 90 days after the increase, must either cause the amount of the credit to be increased to an amount at least equal to the current cost estimate and submit evidence of that increase to the Agency or obtain other financial assurance, as specified in this Subpart, to cover the increase and submit evidence of the alternative financial assurance to the Agency.

g) Term:

- 1) The letter of credit must be issued for a term of at least one year and must be irrevocable during that term.
- 2) The letter of credit must provide that, on the current expiration date and on each successive expiration date, the letter of credit will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Agency by certified mail of a decision not to extend the letter of credit for another term. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Agency have received the notice, as evidenced by the return receipts.
- 3) The Agency must return the letter of credit to the issuing institution for termination when either of the following occurs:
 - A) An owner or operator substitutes alternative financial assurance, as specified in this Subpart; or
 - B) The Agency releases the owner or operator from the requirements of this Subpart in accordance with Ill. Adm. Code 813.403(b).

h) Cure of default and refunds:

- 1) The Agency shall release the financial institution if, after the Agency is allowed to draw on the letter of credit, the owner or operator or another person provides financial assurance for closure and post-closure care of the site or corrective action at an MSWLF unit, unless the Agency determines that a plan or the amount of substituted financial assurance is inadequate to provide closure and post-closure care, or implement corrective action at an MSWLF unit, as required by this Part.

- 2) After closure and post-closure care have been completed in accordance with the closure and post-closure care plans and the requirements of this Part or after the completion of corrective action at an MSWLF unit in accordance with Section 811.326, the Agency shall refund any unspent money which was paid into the "Landfill Closure and Post-Closure Fund" by the financial institution, subject to appropriation of funds by the Illinois General Assembly.

BOARD NOTE: MSWLF corrective action language at subsection (a) is derived from 40 CFR 258.74(c)(1) (1996). P.A. 89-200, signed by the Governor on July 21, 1995 and effective January 1, 1996, amended the deadline for financial assurance for MSWLFs from April 9, 1995 to the date that the federal financial assurance requirements actually become effective, which was April 9, 1997. On November 27, 1996 (61 Fed. Reg. 60337), USEPA added 40 CFR 258.70(c) (1996), codified here as Section 811.700(g), to allow states to waive the compliance deadline until April 9, 1998. The other clarifying changes reflect the inclusion of financial assurance requirements for implementing corrective action at MSWLF units under this Section.

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.714 Closure Insurance

- a) An owner or operator may satisfy the requirements of this Subpart by obtaining closure and post-closure care insurance which conforms to the requirements of this Section and submitting to the Agency an executed duplicate original of the insurance policy and the certificate of insurance for closure and/or post-closure care specified in Appendix A, Illustration F.
- b) The insurer shall be *licensed to transact the business of insurance by the Department of Insurance*, pursuant to the Illinois Insurance Code [215 ILCS 5], *or at a minimum the insurer must be licensed to transact the business of insurance or approved to provide insurance as an excess or surplus lines insurer by the insurance department in one or more states.* [415 ILCS 5/21.1(a.5)]
- c) The policy must be on forms filed with the Illinois Department of Insurance, pursuant to 50 Ill. Adm. Code 753 and Section 143(2) of the Illinois Insurance Code [215 ILCS 5/143(2)] or on forms approved by the insurance department of one or more states.
- d) Face amount:
 - 1) The closure and post-closure care insurance policy must be issued for a

face amount at least equal to the current cost estimate. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

- 2) Whenever the current cost estimate decreases, the face amount may be reduced to the amount of the current cost estimate, following written approval by the Agency.
 - 3) Whenever the current cost estimate increases to an amount greater than the face amount, the owner or operator, within 90 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of that increase to the Agency or obtain other financial assurance, as specified in this Subpart, to cover the increase and submit evidence of the alternative financial assurance to the Agency.
- e) The closure and post-closure care insurance policy must guarantee that funds will be available to close the site and to provide post-closure care thereafter. The policy must also guarantee that, once closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Agency to such party or parties as the Agency specifies. The insurer will be liable when:
- 1) The owner or operator abandons the site;
 - 2) The owner or operator is adjudicated bankrupt;
 - 3) The Board, pursuant to Title VIII of the Act, or a court of competent jurisdiction orders the site closed;
 - 4) The owner or operator notifies the Agency that it is initiating closure; or
 - 5) Any person initiates closure with approval of the Agency.
- f) Reimbursement for closure and post-closure care expenses:
- 1) After initiating closure, an owner or operator or any other person authorized to perform closure or post-closure care may request reimbursement for closure and post-closure care expenditures by submitting itemized bills to the Agency.
 - 2) Within 60 days after receiving bills for closure or post-closure care activities, the Agency shall determine whether the expenditures are in accordance with the closure or post-closure care plan. The Agency shall

direct the insurer to make reimbursement in such amounts as the Agency specifies in writing as expenditures in accordance with the closure and post-closure care plans.

- 3) If the Agency determines based on such information as is available to it that the cost of closure and post-closure care will be greater than the face amount of the policy, it shall withhold reimbursement of such amounts as it deems prudent until it determines that the owner or operator is no longer required to maintain financial assurance. In the event the face amount of the policy is inadequate to pay all claims, the Agency shall pay claims according to the following priorities:
 - A) Persons with whom the Agency has contracted to perform closure or post-closure care activities (first priority);
 - B) Persons who have completed closure or post-closure care authorized by the Agency (second priority);
 - C) Persons who have completed work which furthered the closure or post-closure care (third priority);
 - D) The owner or operator and related business entities (last priority).

g) Cancellation:

- 1) The owner or operator shall maintain the policy in full force and effect until the Agency releases the insurer pursuant to Section 811.702.
- 2) The policy must provide that the insurer may not cancel, terminate or fail to renew the policy, except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate or fail to renew the policy by sending notice by certified mail to the owner or operator and the Agency. Cancellation, termination or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Agency and the owner or operator, as evidenced by the return receipts. Cancellation, termination or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration the premium due is paid.

- h) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.715 Self-Insurance for Non-Commercial Sites

- a) Definitions. The following definitions are intended to assist in the understanding of this Part and are not intended to limit the meanings of terms in any way that conflicts with generally accepted accounting principles:

“Assets” means all existing and all probable future economic benefits obtained or controlled by a particular entity.

“Current assets” means cash or other assets or resources commonly identified as those that are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

“Current liabilities” means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

“Generally accepted accounting principles” means the accounting and auditing standards of the American Institute of Certified Public Accountants and the Governmental Accounting Standards Board that are incorporated by reference in 35 Ill. Adm. Code 810.104.

“Gross Revenue” means total receipts less returns and allowances.

“Independently audited” refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

“Liabilities” means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

“Net working capital” means current assets minus current liabilities.

“Net worth” means total assets minus total liabilities and is equivalent to owner’s equity.

“Tangible net worth” means tangible assets less liabilities; tangible assets to not include intangibles such as goodwill and rights to patents or royalties.

- b) Information to be Filed. An owner or operator may satisfy the financial assurance requirements of this Part by providing the following:

- 1) Bond without surety promising to pay the cost estimate (subsection (c)).

- 2) Proof that the owner or operator meets the gross revenue test (subsection (d)).
 - 3) Proof that the owner or operator meets the financial test (subsection (e)).
- c) **Bond Without Surety.** An owner or operator utilizing self-insurance must provide a bond without surety on the forms specified in Appendix A, Illustration G. The owner or operator must promise to pay the current cost estimate to the Agency unless the owner or operator provides closure and post-closure care in accordance with the closure and post-closure care plans.
- d) **Gross Revenue Test.** The owner or operator must demonstrate that less than one-half of its gross revenues are derived from waste disposal operations. Revenue is “from waste disposal operations” if it would stop upon cessation of the owner or operator’s waste disposal operations.
- e) **Financial Test**
- 1) To pass the financial test, the owner or operator must meet the criteria of either subsection (e)(1)(A) or (e)(1)(B):
 - A) The owner or operator must have:
 - i) Two of the following three ratios: a ratio of total liabilities to net worth of less than 2.0; a ratio of the sum of net income plus depreciation, depletion and amortization to total liabilities of greater than 0.1; or a ratio of current assets to current liabilities of greater than 1.5;
 - ii) Net working capital and tangible net worth each at least six times the current cost estimate;
 - iii) Tangible net worth of at least \$10 million; and
 - iv) Assets in the United States amounting to at least 90 percent of the owner’s or operator’s total assets and at least six times the current cost estimate.
 - B) The owner or operator must have:
 - i) A current rating of AAA, AA, A, or BBB for its most recent bond issuance as issued by Standard and Poor, or a rating of Aaa, Aa, A, or Baa, as issued by Moody;
 - ii) Tangible net worth at least six times the current cost estimate;
 - iii) Tangible net worth of at least \$10 million; and

- iv) Assets located in the United States amounting to at least 90 percent of its total assets or at least six times the current cost estimate.
- 2) To demonstrate that it meets this test, the owner or operator must submit the following items to the Agency:
 - A) A letter signed by the owner or operator's chief financial officer and worded as specified in Appendix A, Illustration I;
 - B) A copy of the independent certified public accountant's report on examination of the owner or operator's financial statements for the latest completed fiscal year; and
 - C) A special report from the owner or operator's independent certified public accountant to the owner or operator stating the following:
 - i) The accountant has compared the data that the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and
 - ii) In connection with that procedure, no matters came to the accountant's attention that caused the accountant to believe that the specified data should be adjusted.
- f) Updated Information
 - 1) After the initial submission of items specified in subsections (d) and (e), the owner or operator must send updated information to the Agency within 90 days after the close of each succeeding fiscal year.
 - 2) If the owner or operator no longer meets the requirements of subsections (d) and (e), the owner or operator must send notice to the Agency of intent to establish alternative financial assurance. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the operator no longer meets the requirements.
- g) Qualified Opinions. If the opinion required by subsections (e)(2)(B) and (e)(2)(C) includes an adverse opinion or a disclaimer of opinion, the Agency must disallow the use of self-insurance. If the opinion includes other qualifications, the Agency must disallow the use of self-insurance if:
 - 1) The qualifications relate to the numbers that are used in the gross revenue test or the financial test; and

- 2) In light of the qualifications, the owner or operator has failed to demonstrate that it meets the gross revenue test or financial test.
- h) Parent Corporation. An owner or operator may satisfy the financial assurance requirements of this Part by either of the following means:
 - 1) Demonstrating that a corporation that owns an interest in the owner or operator meets the requirements of this Section; and
 - 2) Providing a bond to the Agency with the parent corporation as surety on a form specified in Appendix A, Illustration H in accordance with Section 811.711(d), (e), (f), and (g).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.716 Local Government Financial Test

A unit of local government owner or operator that satisfies the requirements of subsections (a) through (c) may demonstrate financial assurance up to the amount specified in subsection (d).

- a) Financial Component
 - 1) The unit of local government owner or operator must satisfy subsection (a)(1)(A) or (a)(1)(B), as applicable:
 - A) If the owner or operator has outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, it must have a current rating of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB, as issued by Standard and Poor's, on all such general obligation bonds; or
 - B) The owner or operator must satisfy each of the following financial ratios based on the owner or operator's most recent audited annual financial statement:
 - i) A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05; and
 - ii) A ratio of annual debt service to total expenditures less than or equal to 0.20.
 - 2) The unit of local government owner or operator must prepare its financial statements in conformity with Generally Accepted Accounting Principles for governments and have its financial statements audited by an independent certified public accountant or the Comptroller of the State of Illinois pursuant to the Governmental Account Audit Act [50 ILCS 310].

3) A unit of local government is not eligible to assure its obligations pursuant to this Section if any of the following is true:

- A) It is currently in default on any outstanding general obligation bonds;
- B) It has any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's;
- C) It operated at a deficit equal to five percent or more of total annual revenue in each of the past two fiscal years; or
- D) It receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant or the Comptroller of the State of Illinois pursuant to the Governmental Account Audit Act [50 ILCS 310] auditing its financial statement as required pursuant to subsection (a)(2). However, the Agency must evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the Agency deems the qualification insufficient to warrant disallowance of use of the test.

4) Terms used in this Section are defined as follows:

"Cash plus marketable securities" is all the cash plus marketable securities held by the unit of local government on the last day of a fiscal year, excluding cash and marketable securities designated to satisfy past obligations such as pensions.

"Debt service" is the amount of principal and interest due on a loan in a given time period, typically the current year.

"Deficit" equals total annual revenues minus total annual expenditures.

"Total revenues" include revenues from all taxes and fees but does not include the proceeds from borrowing or asset sales, excluding revenue from funds managed by a unit of local government on behalf of a specific third party.

"Total expenditures" include all expenditures excluding capital outlays and debt repayment.

b) Public Notice Component

- 1) The unit of local government owner or operator must place a reference to the closure and post-closure care costs assured through the financial test

into its next comprehensive annual financial report (CAFR), or prior to the initial receipt of waste at the facility, whichever is later.

- 2) Disclosure must include the nature and source of closure and post-closure care requirements, the reported liability at the balance sheet date, the estimated total closure and post-closure care cost remaining to be recognized, the percentage of landfill capacity used to date, and the estimated landfill life in years.
- 3) A reference to corrective action costs must be placed in the CAFR not later than 120 days after the corrective action remedy has been selected in accordance with the requirements of Sections 811.319(d) and 811.325.
- 4) For the first year the financial test is used to assure costs at a particular facility, the reference may instead be placed in the operating record until issuance of the next available CAFR if timing does not permit the reference to be incorporated into the most recently issued CAFR or budget.
- 5) For closure and post-closure costs, conformance with Government Accounting Standards Board Statement 18, incorporated by reference in 35 Ill. Adm. Code 810.104, assures compliance with this public notice component.

c) Recordkeeping and Reporting Requirements

- 1) The unit of local government owner or operator must place the following items in the facility's operating record:
 - A) A letter signed by the unit of local government's chief financial officer that provides the following information:
 - i) It lists all the current cost estimates covered by a financial test, as described in subsection (d);
 - ii) It provides evidence and certifies that the unit of local government meets the conditions of subsections (a)(1), (a)(2), and (a)(3); and
 - iii) It certifies that the unit of local government meets the conditions of subsections (b) and (d).
 - B) The unit of local government's independently audited year-end financial statements for the latest fiscal year (except for a unit of local government where audits are required every two years, where unaudited statements may be used in years when audits are not required), including the unqualified opinion of the auditor who must be an independent certified public accountant (CPA) or the

Comptroller of the State of Illinois pursuant to the Governmental Account Audit Act [50 ILCS 310].

- C) A report to the unit of local government from the unit of local government's independent CPA or the Comptroller of the State of Illinois pursuant to the Governmental Account Audit Act [50 ILCS 310] based on performing an agreed upon procedures engagement relative to the financial ratios required by subsection (a)(1)(B), if applicable, and the requirements of subsections (a)(2), (a)(3)(C), and (a)(3)(D). The CPA or Comptroller's report should state the procedures performed and the CPA or Comptroller's findings.
 - D) A copy of the comprehensive annual financial report (CAFR) used to comply with subsection (b) or certification that the requirements of Government Accounting Standards Board Statement 18, incorporated by reference in 35 Ill. Adm. Code 810.104, have been met.
- 2) The items required in subsection (c)(1) must be placed in the facility operating record as follows:
 - A) In the case of closure and post-closure care, prior to the initial receipt of waste at the facility; or
 - B) In the case of corrective action, not later than 120 days after the corrective action remedy is selected in accordance with the requirements of Sections 811.319(d) and 811.325.
 - 3) After the initial placement of the items in the facility operating record, the unit of local government owner or operator must update the information and place the updated information in the operating record within 180 days following the close of the owner or operator's fiscal year.
 - 4) The unit of local government owner or operator is no longer required to meet the requirements of subsection (c) when either of the following occurs:
 - A) The owner or operator substitutes alternative financial assurance as specified in this Section; or
 - B) The owner or operator is released from the requirements of this Section in accordance with Section 811.326(g), 811.702(b), or 811.704(j) or (k)(6).
 - 5) A unit of local government must satisfy the requirements of the financial test at the close of each fiscal year. If the unit of local government owner or operator no longer meets the requirements of the local government financial test it must, within 120 days following the close of the owner or

operator's fiscal year, obtain alternative financial assurance that meets the requirements of this Subpart, place the required submissions for that assurance in the operating record, notify the Agency that the owner or operator no longer meets the criteria of the financial test and that alternative assurance has been obtained, and submit evidence of the alternative financial assurance to the Agency.

- 6) The Agency, based on a reasonable belief that the unit of local government owner or operator may no longer meet the requirements of the local government financial test, may require additional reports of financial condition from the unit of local government at any time. If the Agency determines, on the basis of these reports or other information, that the owner or operator no longer meets the requirements of the local government financial test, the unit of local government must provide alternative financial assurance in accordance with this Subpart.
- d) Calculation of Costs to Be Assured. The portion of the closure, post-closure, and corrective action costs that an owner or operator may assure pursuant to this Section is determined as follows:
- 1) If the unit of local government owner or operator does not assure other environmental obligations through a financial test, it may assure closure, post-closure, and corrective action costs that equal up to 43 percent of the unit of local government's total annual revenue.
 - 2) If the unit of local government assures other environmental obligations through a financial test, including those associated with UIC facilities pursuant to 35 Ill. Adm. Code 704.213; petroleum underground storage tank facilities pursuant to 40 CFR 280; PCB storage facilities pursuant to 40 CFR 761; and hazardous waste treatment, storage, and disposal facilities pursuant to 35 Ill. Adm. Code 724 and 725, it must add those costs to the closure, post-closure, and corrective action costs it seeks to assure pursuant to this Section. The total that may be assured must not exceed 43 percent of the unit of local government's total annual revenue.
 - 3) The owner or operator must obtain an alternative financial assurance instrument for those costs that exceed the limits set in subsections (d)(1) and (d)(2).

BOARD NOTE: Derived from 40 CFR 258.74(f) (2017).

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.717 Local Government Guarantee

An owner or operator may demonstrate financial assurance for closure, post-closure, and corrective action, as required by Section 21.1(a) of the Act and 811. Subpart G, by obtaining a written guarantee provided by a unit of local government. The guarantor shall meet the requirements of the local government financial test in Section 811.716, and shall comply with the terms of a written guarantee.

- a) Terms of the written guarantee. The guarantee must be effective before the initial receipt of waste or before November 27, 1997, whichever is later, in the case of closure or post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of Sections 811.319(d) and 811.325. The guarantee must provide that:
 - 1) If the owner or operator fails to perform closure, post-closure care, or corrective action of a facility covered by the guarantee, the guarantor must:
 - A) Perform, or pay a third party to perform, closure, post-closure care, or corrective action as required; or
 - B) Establish a fully funded trust fund, as specified in Section 811.710, in the name of the owner or operator.
 - 2) The guarantee must remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Agency. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Agency, as evidenced by the return receipts.
 - 3) If a guarantee is cancelled, the owner or operator shall, within 90 days following receipt of the cancellation notice by the owner or operator and the Agency, obtain alternative financial assurance, place evidence of that alternative financial assurance in the facility operating record, and notify the Agency. If the owner or operator fails to provide alternative financial assurance within the 90-day period, the guarantor must provide that alternative assurance within 120 days following the guarantor's notice of cancellation, place evidence of the alternative assurance in the facility operating record, and notify the Agency.
- b) Recordkeeping and reporting.
 - 1) The owner or operator shall place a certified copy of the guarantee along with the items required under Section 811.716(c) into the facility's operating record before the initial receipt of waste or before November 27, 1997, whichever is later, in the case of closure or post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of Sections 811.319(d) and 811.325.

- 2) The owner or operator is no longer required to maintain the items specified in subsection (b) when:
 - A) The owner or operator substitutes alternative financial assurance, as specified in this Subpart;
 - B) The owner or operator is released from the requirements of this Section in accordance with Section 811.326(g), 811.702(b), or 811.704(j) or (k)(6).
- 3) If a unit of local government guarantor no longer meets the requirements of Section 811.716, the owner or operator shall, within 90 days, obtain alternative assurance, place evidence of the alternative assurance in the facility operating record, and notify the Agency. If the owner or operator fails to obtain alternative financial assurance within that 90-day period, the guarantor shall provide that alternative assurance within the next 30 days.

BOARD NOTE: Derived from 40 CFR 258.74(h), added at 61 Fed. Reg. 60327 (Nov. 27, 1996).

(Source: Added at 21 Ill. Reg. 15831, effective November 25, 1997)

Section 811.718 Discounting

For facilities providing financial assurance solely through a trust fund, the Agency shall allow discounting of closure cost estimates, post-closure cost estimates, and corrective action cost estimates in Section 811.704 up to the rate of return for essentially risk free investments, net of inflation, under the following conditions:

- a) The Agency determines that cost estimates are complete and accurate and the owner or operator has submitted a statement from a professional engineer, as defined in Section 810.103, so stating;
- b) The Agency finds the facility in compliance with applicable and appropriate permit conditions;
- c) The Agency determines that the closure date is certain, and the owner or operator certifies that there are no foreseeable factors that will change the estimate of site life; and
- d) Discounted cost estimates are adjusted annually to reflect inflation and the anticipated years of remaining life.

BOARD NOTE: Derived from 40 CFR 258.75, added at 61 Fed. Reg. 60327 (Nov. 27, 1996).

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.719 Corporate Financial Test

An MSWLF owner or operator that satisfies the requirements of this Section may demonstrate financial assurance up to the amount specified in this Section as follows:

- a) Financial Component
 - 1) The owner or operator must satisfy one of the following three conditions:
 - A) A current rating for its senior unsubordinated debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;
 - B) A ratio of less than 1.5 comparing total liabilities to net worth; or
 - C) A ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus \$10 million, to total liabilities.
 - 2) The tangible net worth of the owner or operator must be greater than:
 - A) The sum of the current closure, post-closure care, corrective action cost estimates and any other environmental obligations, including guarantees, covered by a financial test plus \$10 million except as provided in subsection (a)(2)(B).
 - B) \$10 million in net worth plus the amount of any guarantees that have not been recognized as liabilities on the financial statements, provided all of the current closure, post-closure care, and corrective action costs and any other environmental obligations covered by a financial test are recognized as liabilities on the owner's or operator's audited financial statements, and subject to the approval of the Agency.
 - 3) The owner or operator must have assets located in the United States amounting to at least the sum of current closure, post-closure care, corrective action cost estimates and any other environmental obligations covered by a financial test, as described in subsection (c).
- b) Recordkeeping and Reporting Requirements
 - 1) The owner or operator must place the following items into the facility's operating record:

- A) A letter signed by the owner's or operator's chief financial officer that includes the following:
- i) All the current cost estimates covered by a financial test, including, but not limited to, cost estimates required for municipal solid waste management facilities pursuant to this Part; cost estimates required for UIC facilities pursuant to 35 Ill. Adm. Code 730, if applicable; cost estimates required for petroleum underground storage tank facilities pursuant to 40 CFR 280, if applicable; cost estimates required for PCB storage facilities pursuant to 40 CFR 761, if applicable; and cost estimates required for hazardous waste treatment, storage, and disposal facilities pursuant to 35 Ill. Adm. Code 724 or 725, if applicable; and
 - ii) Evidence demonstrating that the firm meets the conditions of subsection (a)(1)(A), (a)(1)(B), or (a)(1)(C) and subsections (a)(2) and (a)(3).
- B) A copy of the independent certified public accountant's unqualified opinion of the owner's or operator's financial statements for the latest completed fiscal year. To be eligible to use the financial test, the owner's or operator's financial statements must receive an unqualified opinion from the independent certified public accountant. An adverse opinion, disclaimer of opinion, or other qualified opinion will be cause for disallowance, with the potential exception for qualified opinions provided in the next sentence. The Agency must evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the Agency deems that the matters that form the basis for the qualification are insufficient to warrant disallowance of the test. If the Agency does not allow use of the test, the owner or operator must provide alternative financial assurance that meets the requirements of this Section.
- C) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies subsection (a)(1)(B) or (a)(1)(C) that are different from data in the audited financial statements referred to in subsection (b)(1)(B) or any other audited financial statement or data filed with the federal Security Exchange Commission, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report must be based upon an agreed upon procedures engagement in accordance with professional auditing standards and must describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently

audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of that comparison, and the reasons for any differences.

D) If the chief financial officer's letter provides a demonstration that the firm has assured for environmental obligations, as provided in subsection (a)(2)(B), then the letter must include a report from the independent certified public accountant that verifies that all of the environmental obligations covered by a financial test have been recognized as liabilities on the audited financial statements, how these obligations have been measured and reported, and that the tangible net worth of the firm is at least \$10 million plus the amount of any guarantees provided.

2) An owner or operator must place the items specified in subsection (b)(1) in the operating record and notify the Agency in writing that these items have been placed in the operating record before the initial receipt of waste, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of Section 811.324.

BOARD NOTE: Corresponding 40 CFR 258.74(e)(2)(ii) provides that this requirement is effective “before the initial receipt of waste or before the effective date of the requirements of this Section (April 9, 1997 or October 9, 1997 for MSWLF units meeting the conditions of Sec. 258.1(f)(1)), whichever is later”. The Board has instead inserted the date on which these amendments are to be filed and become effective in Illinois.

3) After the initial placement of items specified in subsection (b)(1) in the operating record, the owner or operator must annually update the information and place updated information in the operating record within 90 days following the close of the owner's or operator's fiscal year. The Agency must provide up to an additional 45 days for an owner or operator who can demonstrate that 90 days is insufficient time to acquire audited financial statements. The updated information must consist of all items specified in subsection (b)(1).

4) The owner or operator is no longer required to submit the items specified in this subsection (b) or comply with the requirements of this Section when either of the following occurs:

A) It substitutes alternative financial assurance, as specified in this Subpart G, that is not subject to these recordkeeping and reporting requirements; or

- B) It is released from the requirements of this Subpart G in accordance with Sections 811.700 and 811.706.
- 5) If the owner or operator no longer meets the requirements of subsection (a), the owner or operator must obtain alternative financial assurance that meets the requirements of this Subpart G within 120 days following the close of the facility's fiscal year. The owner or operator must also place the required submissions for the alternative financial assurance in the facility operating record and notify the Agency that it no longer meets the criteria of the financial test and that it has obtained alternative financial assurance. The owner or operator must submit evidence of the alternative financial assurance to the Agency.
- 6) The Agency may require the owner or operator to provide reports of its financial condition in addition to or including current financial test documentation specified in subsection (b) at any time it has a reasonable belief that the owner or operator may no longer meet the requirements of subsection (a). If the Agency finds that the owner or operator no longer meets the requirements of subsection (a), the owner or operator must provide alternative financial assurance that meets the requirements of this Subpart G.
- c) Calculation of Costs to Be Assured. When calculating the current cost estimates for closure, post-closure care, corrective action, the sum of the combination of such costs to be covered, and any other environmental obligations assured by a financial test referred to in this Section, the owner or operator must include cost estimates required for municipal solid waste management facilities pursuant to this Part, as well as cost estimates required for the following environmental obligations, if it assures them through a financial test: obligations associated with UIC facilities pursuant to 35 Ill. Adm. Code 730; petroleum underground storage tank facilities pursuant to 40 CFR 280; PCB storage facilities pursuant to 40 CFR 761; and hazardous waste treatment, storage, and disposal facilities pursuant to 35 Ill. Adm. Code 724 or 725.

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.720 Corporate Guarantee

- a) An owner or operator of an MSWLF may meet the requirements of 35 Ill. Adm. Code 811.700 and 811.706 by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a “substantial business relationship” with the owner or operator. The guarantor must meet the requirements for owners or operators in Section 811.719 and must comply with the terms of the guarantee. The owner or operator shall place a certified copy of the guarantee in the facility’s operating record

along with a copy of the letter from the guarantor's chief financial officer and copies of the accountants' opinions. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter from the guarantor's chief financial officer must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

- b) The guarantee must be effective and all required submissions placed in the operating record before the initial receipt of waste or before February 17, 1999, whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of Section 811.324, in the case of corrective action.

BOARD NOTE: Corresponding 40 CFR 258.74(g)(2) provides that this requirement is effective "before the initial receipt of waste or before the effective date of the requirements of this Section (April 9, 1997 or October 9, 1997 for MSWLF units meeting the conditions of Sec. 258.1(f)(1)), whichever is later." The Board has instead inserted the date on which these amendments are to be filed and become effective in Illinois.

- c) The terms of the guarantee must provide as follows:
 - 1) If the owner or operator fails to perform closure, post-closure care, or corrective action of a facility covered by the guarantee, the guarantor will:
 - A) Perform or pay a third party to perform closure, post-closure care, and corrective action, as required (performance guarantee); or
 - B) Establish a fully funded trust fund, as specified in Section 811.709 or 811.710, in the name of the owner or operator (payment guarantee).
 - 2) The guarantee will remain in force for as long as the owner or operator must comply with the applicable financial assurance requirements of this Subpart unless the guarantor sends prior notice of cancellation by certified mail to the owner or operator and to the Agency. Cancellation may not occur, however, during the 120 days beginning on the date on which the owner or operator and the Agency have both received the notice of cancellation, as evidenced by the return receipts.
 - 3) If the guarantor gives notice of cancellation, the owner or operator shall obtain alternative financial assurance, place evidence of that alternative financial assurance in the facility operating record, and notify the Agency within 90 days following receipt of the cancellation notice by the owner or operator and the Agency. If the owner or operator fails to obtain

alternative financial assurance within the 90-day period, the guarantor must provide that alternative assurance within 120 days after the cancellation notice, obtain alternative financial assurance, place evidence of the alternative assurance in the facility operating record, and notify the Agency.

- d) If a corporate guarantor no longer meets the requirements of Section 811.719(a), the owner or operator shall obtain alternative assurance, place evidence of the alternative assurance in the facility operating record, and notify the Agency within 90 days. If the owner or operator fails to provide alternative financial assurance within the 90-day period, the guarantor shall provide that alternative assurance within the next 30 days.
- e) The owner or operator is no longer required to meet the requirements of this Section when:
 - 1) The owner or operator substitutes alternative financial assurance, as specified in this Subpart G; or
 - 2) The owner or operator is released from the requirements of this Subpart G in accordance with Sections 811.700 and 811.706.

(Source: Added at 23 Ill. Reg. 2794, effective February 17, 1999)

Section 811.APPENDIX A Financial Assurance Forms
Section 811.ILLUSTRATION A Trust Agreement

TRUST AGREEMENT

Trust Fund Number _____

Trust Agreement, the "Agreement", entered into as of the _____ day of _____,
by and between _____, a
_____, the "Grantor",
and _____
the "Trustee".

Whereas, Section 21.1 of the Environmental Protection Act, "Act", prohibits any person from conducting any waste disposal operation unless such person has posted with the Illinois Environmental Protection Agency, "IEPA", a performance bond or other security for the purpose of insuring closure of the site and post-closure care or corrective action in accordance with the Act and Illinois Pollution Control Board, "IPCB", rules.

Whereas, the IPCB has established certain regulations applicable to the Grantor, requiring that an operator of a waste disposal site provide assurance that funds will be available when needed for closure and/or post-closure care or corrective action of the site.

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the sites identified in this agreement.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Whereas, Trustee is an entity that has authority to act as a trustee and whose trust operations are regulated by the Illinois Department of Financial and Professional Regulation or who complies with the Corporate Fiduciary Act [205 ILCS 5]. (Line through any condition that does not apply.)

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions.

As used in this Agreement:

- a) The term "Grantor" means the operator who enters into this Agreement and any successors or assigns of the operator.
- b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Sites and Cost Estimates.

This Agreement pertains to the sites and cost estimates identified on attached Schedule A (on Schedule A, list the name and address and current cost estimate of each site for which financial assurance is demonstrated by this agreement).

Section 3. Establishment of Fund.

The Grantor and the Trustee hereby establish a trust fund, the "Fund", for the benefit of the IEPA. The Grantor and the Trustee intend that no other third party have access to the Fund except as provided in this agreement. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached to this agreement. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits on the Fund, less any payments or distributions made by the Trustee pursuant to this agreement. The Fund shall be held by the Trustee, in trust, as provided in this agreement. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor.

Section 4. Payment for Closure and Post-Closure care or Corrective Action.

The Trustee shall make payments from the Fund as the IEPA shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care or corrective action of the sites covered by this agreement. The Trustee shall reimburse the Grantor or other persons as specified by the IEPA from the Fund for closure and post-closure or corrective action expenditures in such amounts as the IEPA shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the IEPA specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund.

Section 5. Payments Comprising the Fund.

Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trust Management.

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- a) Securities or other obligations of the Grantor, or any other owner or operator of the site, or any of their affiliates as defined in Section 80a-2(a)(2) of the Investment Company Act

of 1940, as amended (15 USC 80a-2(a)(2)) shall not be acquired or held, unless they are securities or other obligations of the Federal government or the State of Illinois;

- b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by the Federal Deposit Insurance Corporation.
- c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment.

The Trustee is expressly authorized in its discretion:

- a) To transfer from time to time any or all of the assets of the Fund to any common, commingled or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- b) To purchase shares in any investment company registered under the Investment Company Act of 1940 (15 USC 80a-1 et seq.) including one which may be created, managed, underwritten or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee.

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this agreement or by law, the Trustee is expressly authorized and empowered;

- a) To sell, exchange, convey, transfer or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expedience of any such sale or other disposition;
- b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers granted in this agreement;
- c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

- d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by the Federal Deposit Insurance Corporation; and
- e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses.

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee, to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation.

The Trustee shall annually furnish to the Grantor and to the IEPA a statement confirming the value of the Trust. The evaluation day shall be each year on the _____ day of _____. Any securities in the Fund shall be valued at market value as of the evaluation day. The Trustee shall mail the evaluation statement to the Grantor and the IEPA within 30 days after the evaluation day. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the IEPA shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel.

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation.

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee.

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and the successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the

IEPA and the present Trustee by certified mail ten days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee.

All orders, requests and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests and instructions. All orders, requests and instructions by the IEPA to the Trustee shall be in writing, signed by the IEPA Director or his/her designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or IEPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests and instructions from the Grantor and/or IEPA, except as provided in this agreement.

Section 15. Notice of Nonpayment.

The Trustee shall notify the Grantor and the IEPA, by certified mail within ten days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement.

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee and the IEPA Director or his/her designee, or by the Trustee and the IEPA Director or his/her designee if the Grantor ceases to exist.

Section 17. Irrevocability and Termination.

Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee and the IEPA Director or his/her designee, or by the Trustee and the IEPA Director or his/her designee, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification.

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the IEPA Director or his/her designee issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law.

This Agreement shall be administered, construed and enforced according to the laws of the State of Illinois.

Section 20. Interpretation.

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 35 Ill. Adm. Code 811. Appendix A, Illustration A as those regulations were constituted on the date this Agreement was entered.

Attest: Signature of Grantor _____

 Typed Name _____

 Title _____

Seal

Attest: Signature of Trustee _____

 Typed Name _____

 Title _____

Seal

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.APPENDIX A Financial Assurance Forms
Section 811.ILLUSTRATION B Certificate of Acknowledgment

CERTIFICATE OF ACKNOWLEDGMENT

State of _____)
)SS
County of _____)

On _____ this _____ day of _____, _____ before me personally came _____ (operator) to me known, who, being by me duly sworn, did depose and say that she/he resides at _____ (address), that she/he is _____ (title) of _____ (corporation), the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____ Notary Public

My Commission Expires _____

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.Appendix A Financial Assurance Forms
Section 811.ILLUSTRATION C Forfeiture Bond

FORFEITURE BOND

Date bond executed: _____

Effective date: _____

Principal: _____

Type of organization: _____

State of incorporation: _____

Surety: _____

Sites:

Name _____

Address _____

City _____

Amount guaranteed by this bond: \$ _____

Name _____

Address _____

City _____

Amount guaranteed by this bond: \$ _____

Please attach a separate page if more space is needed for all sites.

Total penal sum of bond: _____

Surety's bond number: _____

The Principal and the Surety promise to pay the Illinois Environmental Protection Agency ("IEPA") the above penal sum unless the Principal provides closure and post-closure care or corrective action for each site in accordance with the closure and post-closure care or corrective action plans for that site. To the payment of this obligation the Principal and Surety jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns.

Whereas the Principal is required, under Section 21(d) of the Environmental Protection Act [415 ILCS 5/21(d)], to have a permit to conduct a waste disposal operation.

Whereas the Principal is required, under Section 21.1 of the Environmental Protection Act [415 ILCS 5/21.1], to provide financial assurance for closure and post-closure care or corrective action.

Whereas the Surety is licensed by the Illinois Department of Insurance or is licensed to transact the business of insurance or approved to provide insurance as an excess or surplus lines insurer by the insurance department in one or more states.

Whereas the Principal and Surety agree that this bond shall be governed by the laws of the State of Illinois.

The Surety shall pay the penal sum to the IEPA if, during the term of the bond, the Principal fails to provide closure or post-closure care or corrective action for any site in accordance with the closure and post-closure care or corrective action plans for that site as guaranteed by this bond. The Principal fails to so provide when the Principal:

- a) Abandons the site;
- b) Is adjudicated bankrupt;

- c) Fails to initiate closure of the site or post-closure care or corrective action when ordered to do so by the Illinois Pollution Control Board or a court of competent jurisdiction;
- d) Notifies the IEPA that it has initiated closure, or initiates closure, but fails to close the site or provide post-closure care or corrective action in accordance with the closure and post-closure care or corrective action plans;
- e) For corrective action, fails to implement corrective action at a municipal solid waste landfill unit in accordance with 35 Ill. Adm. Code 811.326; or
- f) Fails to provide alternative financial assurance and obtain the IEPA written approval of the assurance provided within 90 days after receipt by both the Principal and the IEPA of a notice from the Surety that the bond will not be renewed for another term.

The Surety shall pay the penal sum of the bond to the IEPA within 30 days after the IEPA mails notice to the Surety that the Principal has met one or more of the conditions described above . Payment shall be made by check or draft payable to the State of Illinois, Landfill Closure and Post-Closure Fund.

The liability of the Surety shall not be discharged by any payment or succession of payments unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety exceed the amount of the penal sum.

This bond shall expire on the ____ day of _____, _____ [date], but that expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, the Surety notifies both the IEPA and the Principal by certified mail that the Surety has decided not to extend the term of this surety bond beyond the current expiration date. The 120 days will begin on the date when both the Principal and the IEPA have received the notice, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety; provided, however, that no such notice shall become effective until the Surety receives written authorization for termination of the bond from the IEPA in accordance with 35 Ill. Adm. Code 811.702.

In Witness Whereof, the Principal and Surety have executed this Forfeiture Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below certify that they are authorized to execute this surety bond on behalf of the Principal and Surety and that the wording of this surety bond is identical to the wording specified in 35 Ill. Adm. Code 811. Appendix A, Illustration C as that regulation was constituted on the date this bond was executed.

PRINCIPAL

Signature

Typed Name

Title

Date

Corporate Seal

SURETY

Name

Address

State of Incorporation

Signature

Typed Name

Title

Corporate Seal

Bond Premium: \$ _____

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.Appendix A Financial Assurance Forms
Section 811.ILLUSTRATION D Performance Bond

PERFORMANCE BOND

Date bond executed: _____

Effective date: _____

Principal: _____

Type of organization: _____

State of incorporation: _____

Surety: _____

Sites:

Name _____

Address _____

City _____

Amount guaranteed by this bond: \$ _____

Name _____

Address _____

City _____

Amount guaranteed by this bond: \$ _____

Please attach a separate page if more space is needed for all sites.

Total penal sum of bond: \$ _____

Surety's bond number: _____

The Principal and the Surety promise to pay the Illinois Environmental Protection Agency ("IEPA") the above penal sum unless the Principal or Surety provides closure and post-closure care or corrective action for each site in accordance with the closure and post-closure care or corrective action plans for that site. To the payment of this obligation the Principal and Surety jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns.

Whereas the Principal is required, under Section 21(d) of the Environmental Protection Act [415 ILCS 5/21(d)], to have a permit to conduct a waste disposal operation.

Whereas the Principal is required, under Section 21.1 of the Environmental Protection Act [415 ILCS 5/21.1], to provide financial assurance for closure and post-closure care or corrective action.

Whereas the Surety is licensed by the Illinois Department of Insurance or is licensed to transact the business of insurance or approved to provide insurance as an excess or surplus lines insurer by the insurance department in one or more states.

Whereas the Principal and Surety agree that this bond shall be governed by the laws of the State of Illinois.

The Surety shall pay the penal sum to the IEPA or provide closure and post-closure care or corrective action in accordance with the closure and post-closure care or corrective action plans for the site if, during the term of the bond, the Principal fails to provide closure or post-closure care or corrective action for any site in accordance with the closure and post-closure care or corrective action plans for that site as guaranteed by this bond. The Principal fails to so provide when the Principal:

- a) Abandons the site;
- b) Is adjudicated bankrupt;
- c) Fails to initiate closure of the site or post-closure care or corrective action when ordered to do so by the Illinois Pollution Control Board or a court of competent jurisdiction;
- d) Notifies the IEPA that it has initiated closure, or initiates closure, but fails to close the site or provide post-closure care or corrective action in accordance with the closure and post-closure care or corrective action plans;
- e) For corrective action, fails to implement corrective action at a municipal solid waste landfill unit in accordance with 35 Ill. Adm. Code 811.326; or
- f) Fails to provide alternative financial assurance and obtain the IEPA written approval of the assurance provided within 90 days after receipt by both the Principal and the IEPA of a notice from the Surety that the bond will not be renewed for another term.

The Surety shall pay the penal sum of the bond to the IEPA within 30 days after the IEPA mails notice to the Surety that the Principal met one or more of the conditions described above.

Payment shall be made by check or draft payable to the State of Illinois, Landfill Closure and Post-Closure Fund.

If the Surety notifies the IEPA that it intends to provide closure and post-closure care or corrective action, then the Surety must initiate closure and post-closure care or corrective action within 60 days after the IEPA mailed notice to the Surety that the Principal met one or more of the conditions described above. The Surety must complete closure and post-closure care or corrective action in accordance with the closure and post-closure care or corrective action plans, or pay the penal sum.

The liability of the Surety shall not be discharged by any payment or succession of payments unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety exceed the amount of the penal sum.

This bond shall expire on the ____ day of _____, _____ [date], but that expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, the Surety notifies both the IEPA and the Principal by certified mail that the Surety has decided not to extend the term of this surety bond beyond the current expiration date. The 120 days will begin on the date when both the Principal and the IEPA have received the notice, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety; provided, however, that no such notice shall become effective until the Surety receives written authorization for termination of the bond from the IEPA in accordance with 35 Ill. Adm. Code 811.702.

In Witness Whereof, the Principal and Surety have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below certify that they are authorized to execute this surety bond on behalf of the Principal and Surety and that the wording of this surety bond is identical to the wording specified in 35 Ill. Adm. Code 811. Appendix A, Illustration D as that regulation was constituted on the date this bond was executed.

PRINCIPAL

SURETY

Signature

Name

Typed Name

Address

Title

State of Incorporation

Date

Signature

Typed Name

Corporate Seal

Title

Corporate Seal

Bond Premium: \$ _____

(Source: Amended at 35 Ill. Reg. 18882, effective October 24, 2011)

Section 811.APPENDIX A Financial Assurance Forms

Section 811.ILLUSTRATION E Irrevocable Standby Letter of Credit

IRREVOCABLE STANDBY LETTER OF CREDIT

Director
Illinois Environmental Protection Agency
C/O Bureau of Land #24
Financial Assurance Program
2520 West Iles Avenue
PO Box 19276
Springfield, Illinois 62794-9276

Dear Sir or Madam:

We have authority to issue letters of credit. Our letter-of-credit operations are regulated by the Illinois Department of Financial and Professional Regulation or our deposits are insured by the Federal Deposit Insurance Corporation. (Omit language that does not apply.)

We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor,
at the request and for the account of _____ up to the
aggregate amount of _____ U.S. dollars (\$ _____)
available upon presentation of:

1. your sight draft, bearing references to this letter of credit No. _____ ; and
2. your signed statement reading as follows: "I certify that the amount of the draft is payable under regulations issued under authority of the Environmental Protection Act [415 ILCS 5] and 35 Ill. Adm. Code 811.713(e)."

This letter of credit is effective as of _____[date] and will expire on _____[date]
at least one year later]; but that expiration date will be automatically extended for a period of
[at least one year] on _____[date] and on each successive expiration date, unless, at least
120 days before the current expiration date, we notify both you and _____
_____ [owner's or operator's name] by certified mail that we have decided not to extend
this letter of credit beyond the current expiration date. The 120 days will begin on the date when
both the _____ [owner's or operator's name]
and the IEPA have received the notice, as evidenced by the return receipts. In the event you are
so notified, any unused portion of the credit will be available upon presentation of your sight
draft for 120 days after the date of receipt by both you and _____
_____ [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on, under and in compliance with the terms of this credit, we will duly honor that draft upon presentation to us, and we will deposit the amount of the draft directly into the State of Illinois Landfill Closure and Post-Closure or Corrective Action Fund in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 35 Ill. Adm. Code 811.Appendix A, Illustration E as that regulation was constituted on the date shown below.

Signature _____

Typed Name _____

Title _____

Date _____

Name and address of issuing
institution _____

This credit is subject to [insert “the most recent edition of the Uniform Customs and Practice
for Documentary Credits, published and copyrighted by the
International Chamber of Commerce” or “the Uniform Commercial
Code”]. _____

(Source: Amended at 49 Ill. Reg. 12769, effective September 23, 2025)

Section 811.ILLUSTRATION F Certificate of Insurance for Closure and/or Postclosure Care

CERTIFICATE OF INSURANCE FOR CLOSURE AND/OR POSTCLOSURE CARE

Name and Address of Insurer ("Insurer"):_____

Name and Address of Insured ("Insured"):_____

Sites Covered:

Name_____

Address_____

City_____

Amount insured for this site: \$_____

Name_____

Address_____

City_____

Amount insured for this site: \$_____

Please attach a separate page if more space is needed for all sites.

Face Amount_____

Policy Number_____

Effective Date_____

The Insurer hereby certifies that it is licensed to transact the business of insurance by the Illinois Department of Insurance.

The insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for closure and postclosure care for the sites identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 35 Ill. Adm. Code 811.714, as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Name (Authorized signature for Insurer) _____

Typed Name _____

Title _____

Date _____

Section 811.ILLUSTRATION G Operator's Bond Without Surety

Section 811.ILLUSTRATION G Owner's or Operator's Bond Without Surety

OWNER'S OR OPERATOR'S BOND WITHOUT SURETY

Date bond executed: _____

Effective date: _____

Owner or Operator: _____

Owner's or Operator's address: _____

Site: _____

Site address: _____

Penal Sum \$ _____

The owner or operator promises to pay the penal sum to the Illinois Environmental Protection Agency unless the owner or operator provides closure and post-closure care or corrective action for the site in accordance with the closure and post-closure care or corrective action plans for the site.

Owner or Operator _____

Signature _____

Typed Name _____

Title _____

Date: _____

Corporate seal

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.ILLUSTRATION H Owner's or Operator's Bond With Parent Surety

OWNER'S OR OPERATOR'S BOND WITH PARENT SURETY

Date bond executed: _____

Effective Date: _____

Surety: _____

Surety's address: _____

Owner or Operator: _____

Owner's or Operator's address: _____

Site: _____

Site address: _____

Penal sum: \$ _____

The Owner or Operator and Surety promise to pay the above penal sum to the Illinois Environmental Protection Agency ("IEPA") unless the Owner or Operator provides closure and post-closure care of the site in accordance with the closure and post-closure care plans for the site. To the payment of this obligation the Owner or Operator and Surety jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns.

Whereas the Owner or Operator is required under Section 21(d) of the Environmental Protection Act [415 ILCS 5/21(d)] to have a permit to conduct a waste disposal operation.

Whereas the Owner or Operator is required under Section 21.1 of the Environmental Protection Act [415 ILCS 5/21.1] to provide financial assurance for closure and post-closure care.

Whereas the Owner or Operator and Surety agree that this bond shall be governed by the laws of the State of Illinois.

Whereas the Surety is a corporation that owns an interest in the Owner or Operator.

The Surety shall pay the penal sum to the IEPA if, during the term of the bond, the Owner or Operator fails to provide closure or post-closure care for any site in accordance with the closure and post-closure care plans for that site as guaranteed by this bond. The Owner or Operator fails to so provide when the Owner or Operator:

- a) Abandons the site;
- b) Is adjudicated bankrupt;

- c) Fails to initiate closure of the site or post-closure care when ordered to do so by the Illinois Pollution Control Board or a court of competent jurisdiction;
- d) Notifies the IEPA that it has initiated closure, or initiates closure, but fails to close the site or provide post-closure care in accordance with the closure and post-closure care plans;
- e) For corrective action, fails to implement corrective action at a municipal solid waste landfill unit in accordance with 35 Ill. Adm. Code 811.326; or
- f) Fails to provide alternative financial assurance and obtain the IEPA written approval of the assurance provided within 90 days after receipt by the Owner or Operator and the IEPA of a notice from the Surety that the bond will not be renewed for another term.

The Surety shall pay the penal sum of the bond to the IEPA within 30 days after the IEPA mails notice to the Surety that the Owner or Operator has met one or more of the conditions described above. Payment shall be made by check or draft payable to the State of Illinois, Landfill Closure and Post-Closure Fund.

The liability of the Surety shall not be discharged by any payment or succession of payments unless and until the payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety exceed the amount of the penal sum.

This bond shall expire on the _____ day of _____, _____ [date], but that expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, the Surety notifies both the IEPA and the Owner or Operator by certified mail that the Surety has decided not to extend the term of this surety bond beyond the current expiration date. The 120 days will begin on the date when both the Owner or Operator and the IEPA have received the notice, as evidenced by the return receipts.

The Owner or Operator may terminate this bond by sending written notice to the Surety; provided, however, that no such notice shall become effective until the Surety receives written authorization for termination of the bond from the IEPA in accordance with 35 Ill. Adm. Code 811.702.

The persons whose signatures appear below certify that they are authorized to execute this surety bond on behalf of the Owner or Operator and Surety and that the wording of this surety bond is identical to the wording specified in 35 Ill. Adm. Code 811.Appendix A, Illustration H as that regulation was constituted on the date this bond was executed.

In Witness Whereof, the Owner or Operator and Surety have executed this bond and have affixed their seals on the date set forth above.

OWNER OR OPERATOR

SURETY

Signature

Name

Typed Name

Address

Title

State of Incorporation

Date

Signature

Typed Name

Corporate Seal

Title

Corporate Seal

(Source: Amended at 35 Ill. Reg. 10842, effective June 22, 2011)

Section 811.ILLUSTRATION I Letter from Chief Financial Officer

LETTER FROM CHIEF FINANCIAL OFFICER

Director
Illinois Environmental Protection Agency
C/O Bureau of Land #24
2520 West Iles Avenue
PO Box 19276
Springfield, Illinois 62794-9276

Dear Sir or Madam:

I am the chief financial officer of _____

This letter is in support of this firm's use of the gross revenue test and financial test to demonstrate financial assurance pursuant to 35 Ill. Adm. Code 811.715.

Owner or Operator:

Name: _____

Address: _____

City: _____

Current cost estimate: \$ _____

Owner or Operator:

Name: _____

Address: _____

City: _____

Current cost estimate: \$ _____

Please attach a separate page if more space is needed for all facilities.

Attached is an Owner's or Operator's Bond without Surety or an Owner's or Operator's Bond with Parent Surety for the current cost estimate for each site. (Strike inapplicable language.)

Gross Revenue Test

1. Gross revenue of the firm \$ _____
2. Gross revenue from waste disposal operation \$ _____
3. Line 2 divided by line 3 _____

Financial Test Alternative I

1. Sum of current cost estimates (total of all cost estimates shown in paragraphs above) \$ _____
2. Total liabilities (if any portion of the cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4) \$ _____
3. Tangible net worth \$ _____
4. Net worth \$ _____
5. Current assets \$ _____
6. Current liabilities \$ _____
7. Net working capital (line 5 minus line 6) \$ _____
8. The sum of net income plus depreciation, depletion, and amortization \$ _____
9. Total assets in U.S. (required only if less than 90 percent of firm's assets are located in the U.S.) \$ _____

Yes/No
10. Is line 3 at least \$10 million? _____
11. Is line 3 at least 6 times line 1? _____
12. Is line 7 at least 6 times line 1? _____
13. Are at least 90 percent of firm's assets located in the U.S.? If not, complete line 14. _____
14. Is line 9 at least 6 times line 1? _____
15. Is line 2 divided by line 4 less than 2.0? _____

16. Is line 8 divided by line 2 greater than 0.1? _____

17. Is line 5 divided by line 6 greater than 1.5? _____

Signature _____

Typed Name _____

Title _____

Date _____

Financial Test Alternative II

1. Sum of current cost estimates (total of all cost estimates shown in paragraphs above) \$ _____

2. Current bond rating of most recent issuance of this firm and name of rating service _____

3. Date of issuance of bond _____

4. Date of maturity of bond _____

5. Tangible net worth (if any portion of the closure and post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line) \$ _____

6. Total assets in U.S. (required only if less than 90 percent of firm's assets are located in the U.S.) \$ _____

Yes/No

7. Is line 5 at least \$10 million? _____

8. Is line 5 at least 6 times line 1? _____

9. Are at least 90 percent of firm's assets located in the U.S.? If not complete line 10.

10. Is line 6 at least 6 times line 1? _____

Signature _____

Typed name _____

Title _____

Date _____

(Source: Amended at 49 Ill. Reg. 12769, effective September 23, 2025)

Section 811.APPENDIX B State-Federal MSWLF Regulations Correlation Table

RCRA SUBTITLE D REGULATIONS

ILLINOIS LANDFILL REGULATIONS

I. Subpart A: General

- | | |
|--|---|
| 1) Purpose, Scope, and Applicability (40 CFR 258.1) | 1) NL ¹ : Sections 811.101, 811.301, 811.401, 811.501, and 811.700. EL ² : Section 814.101. |
| 2) Definitions (40 CFR 258.2) | 2) Section 810.103. |
| 3) Research, Development, and Demonstration Permits (40 CFR 258.4) | 3) Sections 811.103(b)(1) and (b)(2), 811.107(m)(1)(C), 811.314(a), and 813.112. |

II. Subpart B: Location Restrictions

- | | |
|--|--|
| 1) Airport safety (40 CFR 258.10) | 1) NL ¹ : Section 811.302(e) and (f). EL ² : Sections 814.302(c) and 814.402(c). |
| 2) Floodplains. (40 CFR 258.11) | 2) NL ¹ : Section 811.102(b). EL ² : Sections 814.302(a)(1) and 814.402(a)(1). |
| 3) Wetlands. (40 CFR 258.12) | 3) NL ¹ : Sections 811.102(d) and (e) and 811.103. EL ² : Sections 811.102(d) and (e) and 811.103. |
| 4) Fault areas. (40 CFR 258.13) | 4) NL ¹ : Sections 811.304 and 811.305. EL ² : Sections 814.302 and 814.402. |
| 5) Seismic impact zones. (40 CFR 258.14) | 5) Same as (4). |

6)	Unstable areas. (40 CFR 258.15)	6)	NL ¹ : Sections 811.304 and 811.305. EL ² : Sections 811.302(c) and 811.402(c).
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7)	Closure of existing MSWL units. (40 CFR 258.16)	7)	EL ² : Sections 814.301 and 814.401.
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III. Subpart C: Operating Criteria

1)	Procedures for excluding the receipt of hazardous waste. (40 CFR 258.20)	1)	NL ¹ : Section 811.323. EL ² : Sections 814.302 and 814.402.
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2)	Cover material requirements. (40 CFR 258.21)	2)	NL ¹ : Section 811.106. EL ² : Sections 814.302 and 814.402.
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3)	Disease vector control. (40 CFR 258.22)	3)	NL ¹ : Section 811.107(i). EL ² : Sections 814.302 and 814.402.
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4)	Explosive gas control. (40 CFR 258.23)	4)	NL ¹ : Sections 811.310, 811.311, and 811.312. EL ² : Sections 814.302 and 814.402.
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5)	Air criteria. (40 CFR 258.24)	5)	NL ¹ : Sections 811.107(b), 811.310, and 811.311. EL ² : Sections 814.302 and 814.402.
----	-------------------------------	----	--

6)	Access requirements. (40 CFR 258.25)	6)	NL ¹ : Section 811.109. EL ² : Sections 814.302 and 814.402.
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7)	Run-on/run-off control system. (40 CFR 258.26)	7)	NL ¹ : Section 811.103. EL ² : Sections 814.302 and 814.402.
----	--	----	--

8)	Surface water requirements. (40 CFR 258.27)	8)	Same as (7).
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9)	Liquids restrictions. (40 CFR 258.28)	9)	NL ¹ : Section 811.107(m). EL ² : Sections 814.302 and 814.402.
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10)	Recordkeeping requirements. (40 CFR 258.29)	10)	NL ¹ : Section 811.112 and Parts 812 and 813. EL ² : Sections 814.302 and 814.402.
IV.	Subpart D: Design Criteria (40 CFR 258.40)	IV)	NL ¹ : 811.303, 811.304, 811.305, 811.306, 811.307, 811.308, 811.309, 811.315, 811.316, and 811.317, and 811.Subpart E. EL ² : Sections 814.302 and 814.402.
V.	Subpart E: Groundwater Monitoring and Corrective Action		
1)	Applicability.	1)	NL ¹ : 35 Section 811.319(a)(1). EL ² : Sections 814.302 and 814.402.
2)	Groundwater monitoring systems. (40 CFR 258.51)	2)	NL ¹ : Sections 811.318 and 811.320(d). EL ² : Sections 814.302 and 814.402.
3)	Groundwater sampling and analysis. (40 CFR 258.53)	3)	NL ¹ : Sections 811.318(e) and 811.320(d) and (e). EL ² : Sections 814.302 and 814.402.
4)	Detection monitoring program. (40 CFR 258.54)	4)	NL ¹ : Section 811.319(a). EL ² : Sections 814.302 and 814.402.
5)	Assessment monitoring program. (40 CFR 258.55)	5)	NL ¹ : Section 811.319(b). EL ² : Sections 814.302 and 814.402.
6)	Assessment of corrective measures. (40 CFR 258.56)	6)	NL ¹ : Sections 811.319(d) and 811.324. EL ² : Sections 814.302 and 814.402.
7)	Selection of remedy. (40 CFR 258.57)	7)	NL ¹ : Sections 811.319(d) and 811.325. EL ² : Sections 814.302 and 814.402.
8)	Implementation of the corrective action program. (40 CFR 258.58)	8)	NL ¹ : Sections 811.319(d) and 811.326. EL ² : Sections 814.302 and 814.402.

VI. Subpart F: Closure and Post-Closure Care

- | | | | |
|----|---|----|---|
| 1) | Closure criteria. (40 CFR 258.60) | 1) | NL ¹ : Sections 811.110, 811.314, and 811.322. EL ² : Sections 814.302 and 814.402. |
| 2) | Post-closure care requirements. (40 CFR 258.61) | 2) | NL ¹ : Section 811.111. EL ² : Sections 814.302 and 814.402. |

VII. Subpart G: Financial Assurance Criteria

- | | | | |
|----|--|----|---|
| 1) | Applicability and effective date. (40 CFR 258.70) | 1) | NL ¹ : Section 811.700. EL ² : Sections 814.302 and 814.402. |
| 2) | Financial assurance for closure. (40 CFR 258.71) | 2) | NL ¹ : Sections 811.701 through 811.705. EL ² : Sections 814.302 and 814.402. |
| 3) | Financial assurance for post-closure. (40 CFR 258.72) | 3) | Same as (2). |
| 4) | Financial assurance for corrective action. (40 CFR 258.73) | 4) | Same as (2). |
| 5) | Allowable mechanisms. (40 CFR 258.74 and 258.75) | 5) | NL ¹ : Sections 811.706 through 811.720. EL ² : Sections 814.302 and 814.402. |

1 - NL: New Landfill; 2 - EL: Existing Landfill and Lateral Expansions.

(Source: Amended at 42 Ill. Reg. 21330, effective November 19, 2018)

Section 811.APPENDIX C List of Leachate Monitoring Parameters

Acenaphthene (1,2-dihydroacenaphthylene; CAS No. 83-32-9)
Acetone (dimethyl ketone, propan-2-one; CAS No. 67-64-1)

Alachlor (2-chloro-N-(2,6-diethylphenyl)-N-(methoxymethyl)acetamide; CAS No. 15972-60-8)
 Aldicarb (2-methyl-2-(methylthio)propanal O-((methylamino)carbonyl)oxime; CAS No. 116-06-3)
 Aldrin (CAS No. 309-00-2)
 α -BHC ((1 α ,2 α ,3 β ,4 α ,5 β ,6 β)-1,2,3,4,5,6-hexachlorocyclohexane, α -hexachlorocyclohexane; CAS No. 319-84-6)
 β -BHC ((1 α ,2 β ,3 α ,4 β ,5 α ,6 β)-1,2,3,4,5,6-hexachlorocyclohexane, β -hexachlorocyclohexane; CAS No. 319-85-7)
 δ -BHC ((1 α ,2 α ,3 α ,4 β ,5 α ,6 β)-1,2,3,4,5,6-hexachlorocyclohexane, δ -hexachlorocyclohexane; CAS No. 319-86-8)
 Aluminum (CAS No. 7429-90-5)
 Ammonia nitrogen as N (CAS No. 7664-41-7)
 Anthracene (CAS No. 120-12-7)
 Antimony (CAS No. 7440-36-0)
 Arsenic (total) (CAS No. 7440-38-2)
 Atrazine (6-chloro-N-ethyl-N-(propan-2-yl)-1,3,5-triazine-2,4-diamine; CAS No. 1912-24-9)
 Bacteria (fecal coliform)
 Barium (total) (CAS No. 7440-39-3)
 Benzene (CAS No. 71-43-2)
 Benzo(a)anthracene (tetraphene; CAS No. 56-55-3)
 Benzo(b)fluoranthene (benz(e)acephenanthrylene; CAS No. 205-99-2)
 Benzo(k)fluoranthene (CAS No. 207-08-9)
 Benzo(ghi)perylene (CAS No. 191-24-2)
 Benzo(a)pyrene (benzo(pqr)tetraphene; CAS No. 50-32-8)
 Beryllium (total) (CAS No. 7440-41-7)
 Bicarbonate (CAS No. 71-52-3)
 Biochemical oxygen demand (BOD₅)
 Bis(2-chloro-1-methylethyl) ether (1-chloro-2-(1-chloropropan-2-yloxy)propane, 2,2'-oxybis(1-chloropropane); CAS No. 108-60-1)
 Bis(2-chloroethoxy)methane (1-chloro-2-(2-chloroethoxymethoxy)ethane, 1,1'-(methylenebis(oxy))bis(2-chloroethane); CAS No. 111-91-1)
 Bis(2-chloroethyl) ether (1-chloro-2-(2-chloroethoxy)ethane; CAS No. 111-44-4)
 Bis(2-ethylhexyl) ether (3-(2-ethylhexoxymethyl)heptane; CAS No. 10143-60-9)
 Bis(2-ethylhexyl) phthalate (bis(2-ethylhexyl) benzene-1,2-dicarboxylate; CAS No. 117-81-7)
 Bis(chloromethyl) ether (chloro(chloromethoxy)methane, 1,1'-oxybis(1-chloromethane); CAS No. 542-88-1)
 Boron (CAS No. 7440-42-8)
 Bottom of well elevation
 Bromobenzene (CAS No. 108-86-1)
 Bromochloromethane (CAS No. 74-97-5)
 Bromodichloromethane (CAS No. 75-27-0)
 Bromoform (tribromomethane; CAS No. 75-25-2)
 Bromomethane (CAS No. 74-83-9)

4-Bromophenyl phenyl ether (1-bromo-4-phenoxybenzene; CAS No. 101-55-3)
 Butanol (including four structural isomers, one of which has two stereoisomers: n-butanol (butan-1-ol; CAS No. 71-36-3), sec-butanol (butan-2-ol; CAS No. 78-92-2 (for both stereoisomers)), isobutanol (2-methylpropan-1-ol; CAS No. 78-83-1), and tert-butanol (2-methylpropan-2-ol; CAS No. 75-65-0)
 n-Butylbenzene (butyl benzene, 1-butylbenzene; CAS No. 104-51-8)
 sec-Butylbenzene (butan-2-ylbenzene, (1-methylpropyl)benzene; CAS No. 135-98-8)
 tert-Butylbenzene (1,1-dimethylethylbenzene; CAS No. 98-06-6)
 Butyl benzyl phthalate (benzyl butyl benzene-1,2-dicarboxylic acid; CAS No. 85-68-7)
 Cadmium (total) (CAS No. 7440-43-9)
 Calcium (CAS No. 7440-70-2)
 Carbofuran ((2,2-dimethyl-3H-1-benzofuran-7-yl) N-methylcarbamate, 2,2-dimethyl-2,3-dihydro-1-benzofuran-7-yl N-methylcarbamate; CAS No. 1563-66-2)
 Carbon disulfide (methanedithione; CAS No. 75-15-0)
 Carbon tetrachloride (tetrachloromethane; CAS No. 56-23-5)
 Chemical oxygen demand (COD)
 Chlordane (including two stereoisomers; 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane; CAS No. 57-74-9)
 Chloride (CAS No. 16887-00-6)
 Chlorobenzene (CAS No. 108-90-7)
 Chloroethane (CAS No. 75-00-3)
 2-Chloroethyl vinyl ether ((2-chloroethoxy)ethene; CAS No. 110-75-8)
 Chloroform (trichloromethane; CAS No. 67-66-3)
 Chloromethane (CAS No. 74-87-3)
 2-Chloronaphthalene (CAS No. 91-58-7)
 2-Chlorophenol (o-chlorophenol; CAS No. 95-57-8)
 4-Chlorophenyl phenyl ether (1-chloro-4-phenoxybenzene, p-chlorophenyl phenyl ether; CAS No. 7005-72-3)
 o-Chlorotoluene (1-chloro-2-methylbenzene; CAS No. 95-49-8)
 p-Chlorotoluene (1-chloro-4-methylbenzene; CAS No. 106-43-4)
 Chromium (hexavalent) (CAS No. 18540-29-9)
 Chromium (total) (CAS No. 7447-47-3)
 Chrysene (1,2-benzophenanthrene, benzo(a)phenanthrene; CAS No. 218-01-9)
 Cobalt (total) (CAS No. 7440-48-4)
 Copper (total) (CAS No. 7440-50-8)
 p-Cresol (4-methylphenol; CAS No. 106-44-5)
 Cyanide (CAS No. 57-12-5)
 4,4-DDD (1-chloro-4-(2,2-dichloro-1-(4-chlorophenyl)ethyl)benzene, p,p'-DDD, dichlorodiphenyldichloroethane; CAS No. 72-54-8)
 4,4-DDE (1-chloro-4-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)benzene, p,p'-DDE, dichlorodiphenyldichloroethylene; CAS No. 72-55-9)
 4,4-DDT (1-chloro-4-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)benzene, p,p'-DDD; CAS No. 50-29-3)
 Dibenzo(a,h)anthracene (dibenz(a,h)anthracene; CAS No. 53-70-3)
 1,2-Dibromo-3-chloropropane (CAS No. 96-12-8)
 Dibromochloromethane (CAS No. 124-48-1)

Dibromomethane (methylenedibromide; CAS No. 74-95-3)
 Di-n-butyl phthalate (dibutyl benzene-1,2-dicarboxylate; CAS No. 84-74-2)
 m-Dichlorobenzene (1,3-dichlorobenzene; CAS No. 541-73-1)
 o-Dichlorobenzene (1,2-dichlorobenzene; CAS No. 95-50-1)
 p-Dichlorobenzene (1,4-dichlorobenzene; CAS No. 106-46-7)
 3,3'-Dichlorobenzidine (3,3'-dichloro(1,1'-biphenyl)-4,4'-diamine; CAS No. 91-94-1)
 1,4-Dichloro-2-butene (including two stereoisomers; CAS No. 764-41-0)
 Dichlorodifluoromethane (CAS No. 75-71-8)
 1,1-Dichloroethane (CAS No. 75-34-3)
 1,2-Dichloroethane (CAS No. 107-06-2)
 1,1-Dichloroethylene (1,1-dichloroethene; CAS No. 75-35-4)
 cis-1,2-Dichloroethylene ((Z)-1,2-dichloroethene; CAS No. 156-59-2)
 trans-1,2-Dichloroethylene ((E)-1,2-dichloroethene; CAS No. 156-60-5)
 2,4-Dichlorophenol (CAS No. 120-83-2)
 2,4-Dichlorophenoxyacetic acid (2,4-D; CAS No. 94-75-7)
 1,2-Dichloropropane (propylene dichloride; CAS No. 78-87-5)
 1,3-Dichloropropane (CAS No. 142-28-9)
 2,2-Dichloropropane (dichlorodimethylmethane; CAS No. 594-20-7)
 1,1-Dichloropropene (1,1-dichloroprop-1-ene; CAS No. 563-58-6)
 1,3-Dichloropropene (1,3-dichloroprop-1-ene; including two stereoisomers; CAS No. 542-75-6)
 trans-1,3-Dichloropropene ((E)-1,3-dichloroprop-1-ene; CAS No. 10061-02-6)
 Dieldrin (1aR,2R,2aS,3S,6R,6aR,7S,7aS)-3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanonaphtho(2,3-b)oxirene; CAS No. 60-57-1)
 Diethyl phthalate (diethyl benzene-1,2-dicarboxylate; CAS No. 84-66-2)
 2,4-Dimethylphenol (2,4-xyleneol; CAS No. 105-67-9)
 Dimethyl phthalate (dimethyl benzene-1,2-dicarboxylate; CAS No. 131-11-3)
 4,6-Dinitro-o-cresol (2-methyl-4,6-dinitrophenol; CAS No. 534-52-1)
 2,4-Dinitrophenol (CAS No. 51-28-5)
 2,4-Dinitrotoluene (1-methyl-2,4-dinitrobenzene; CAS No. 121-14-2)
 2,6-Dinitrotoluene (1-methyl-2,6-dinitrobenzene; CAS No. 573-56-8)
 Di-n-octyl phthalate (dioctyl benzene-1,2-dicarboxylic acid; CAS No. 117-84-0)
 Elevation leachate surface
 Endosulfan I ((3 α ,5 α β ,6 α ,9 α ,9 α β)-6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide, α -endosulfan; CAS No. 959-98-8)
 Endosulfan II ((3 α ,5 α α ,6 β ,9 β ,9 α)-6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide, β -endosulfan; CAS No. 19670-15-6)
 Endosulfan sulfate (6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3,3-dioxide; CAS No. 1031-07-8)
 Endrin ((1R,2S,2aS,3S,6R,7R,7aS)-3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanobaphtho(2,3-b)oxirene; CAS No. 72-20-8)
 Endrin aldehyde ((1 α ,2 β ,2 α β ,4 α β ,5 β ,6 α β ,6 β β ,7R*)-2,2a,3,3,4,7-hexachlorodecahydro-1,2,4-methenocyclopenta(cd)pentalene-5-carboxaldehyde; CAS No. 7421-93-4)
 Ethyl acetate (ethyl ethanoate; CAS No. 141-78-6)
 Ethylbenzene (CAS No. 100-41-4)
 Ethylene dibromide (EDB) (1,2-dibromoethane; CAS No. 106-93-4)

Fluoranthene (benzo(jk)fluorene; 1,2-(1,8-naphthalenediyl)benzene; CAS No. 206-44-0)
 Fluorene (9H-fluorene; CAS No. 86-73-7)
 Fluoride (CAS No. 16984-48-8)
 Heptachlor (1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene; CAS No. 76-44-8)
 Heptachlor epoxide (1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro-4,7-methanoindan; CAS No. 1024-57-3)
 Hexachlorobenzene (CAS No. 118-74-1)
 Hexachlorobutadiene (1,1,2,3,4,4-hexachlorobuta-1,3-diene; CAS No. 87-68-3)
 Hexachlorocyclopentadiene (1,2,3,4,5,5-hexachlorocyclopenta-1,3-diene; CAS No. 77-47-4)
 Hexachloroethane (CAS No. 67-72-1)
 2-Hexanone (hexan-2-one, n-butyl methyl ketone; CAS No. 591-78-6)
 Indeno(1,2,3-cd)pyrene (2,3-(o-phenylene)pyrene; CAS No. 193-39-5)
 Iodomethane (CAS No. 74-88-4)
 Iron (total) (CAS No. 7439-89-6)
 Isopropylbenzene (cumene; (propan-2-yl)benzene; CAS No. 98-82-8)
 p-Isopropyltoluene (1-methyl-4-(propan-2-yl)benzene, p-cymene; CAS No. 99-87-6)
 Lead (total) (CAS No. 7439-92-1)
 Leachate level from measuring point
 Lindane ((1r,2R,3S,4r,5R,6S)-1,2,3,4,5,6-hexachlorocyclohexane, γ -hexachlorocyclohexane; CAS No. 58-89-9)
 Magnesium (total) (CAS No. 7439-95-4)
 Manganese (total) (CAS No. 7439-96-5)
 Mercury (total) (CAS No. 7439-97-6)
 Methoxychlor (1,1,1-trichloro-2,2-bis(4-methoxyphenyl)ethane; CAS No. 72-43-5)
 Methyl chloride (chloromethane; CAS No. 74-87-3)
 Methyl ethyl ketone (butan-2-one; CAS No. 78-93-3)
 Methylene bromide (dibromomethane; CAS No. 74-95-3)
 Methylene chloride (dichloromethane; CAS No. 75-09-2)
 4-Methylpentan-2-one (methyl isobutyl ketone; CAS No. 108-10-1)
 Naphthalene (CAS No. 91-20-3)
 Nickel (total) (CAS No. 7440-02-0)
 Nitrate as nitrogen (CAS No. 14797-55-8)
 Nitrobenzene (CAS No. 98-95-3)
 o-Nitrophenol (2-nitrophenol; CAS No. 88-75-5)
 p-Nitrophenol (4-nitrophenol; CAS No. 100-02-7)
 N-Nitrosodimethylamine (N,N-dimethylnitrous amide; CAS No. 62-75-9)
 N-Nitrosodiphenylamine (the IUPAC name N,N-diphenylnitrous amide; CAS No. 86-30-6)
 N-Nitrosodipropylamine (dipropylnitrous amide, N-nitroso-N-propyl-1-propanamine; CAS No. 621-64-7)
 Oil—hexane soluble (or equivalent)
 Parathion (O,O-diethyl O-(4-nitrophenyl) phosphorothioate; CAS No. 56-38-2)
 Pentachlorophenol (CAS No. 87-86-6)
 pH

Phenanthrene (CAS No. 85-01-8)
Phenol (benzenol; CAS No. 108-95-2)
Phosphorous (CAS No. 7723-14-0)
Polychlorinated biphenyls (including several compounds with varied chlorination and their isomers; CAS No. 1336-36-3)
Potassium (CAS No. 7440-09-7)
1-Propanol (n-propyl alcohol; CAS No. 71-23-8)
2-Propanol (isopropyl alcohol; CAS No. 67-63-0)
n-Propylbenzene (propylbenzene, isocumene; CAS No. 103-65-1)
Pyrene (benzo(def)phenanthrene; CAS No. 129-00-0)
Selenium (CAS No. 7782-49-2)
Silver (total) (CAS No. 7440-22-4)
Specific conductance
Sodium (CAS No. 7440-23-5)
Styrene (ethenylbenzene; CAS No. 100-42-5)
Sulfate (CAS No. 14808-79-8)
Temperature of leachate sample (°F)
Tetrachlorodibenzo-p-dioxins (2,3,7,8-tetrachlorodibenzo(be)(1,4)dioxine; CAS No. 1746-01-6)
1,1,1,2-Tetrachloroethane (R-130a; CAS No. 630-20-6)
1,1,2,2-Tetrachloroethane (R-130; CAS No. 79-34-5)
Tetrachloroethylene (tetrachloroethene; perchloroethylene; CAS No. 127-18-4)
Tetrahydrofuran (oxolane; 1,4-epoxybutane; CAS No. 109-99-9)
Thallium (CAS No. 7440-28-0)
Tin (CAS No. 7440-31-5)
Toluene (methylbenzene; CAS No. 108-88-3-23-8)
Total dissolved solids (TDS)
Total organic carbon (TOC)
Total suspended solids (TSS)
Toxaphene (including several compounds with varied chlorination and their isomers; chlorinated camphene; CAS No. 8001-35-2)
2,4,5-TP ((2,4,5-trichlorophenoxy)propionic acid, Silvex, fenoprop; CAS No. 93-72-1))
1,2,3-Trichlorobenzene (CAS No. 87-61-6)
1,2,4-Trichlorobenzene (CAS No. 120-82-1)
1,1,1-Trichloroethane (methyl chloroform; CAS No. 71-55-6)
1,1,2-Trichloroethane (vinyl trichloride; CAS No. 79-00-5)
Trichloroethylene (trichloroethene; CAS No. 79-01-6)
Trichlorofluoromethane (Freon 11; CAS No. 75-69-4)
2,4,6-Trichlorophenol (CAS No. 88-06-2)
1,2,3-Trichloropropane (CAS No. 96-18-4)
1,2,4-Trimethylbenzene (hemellitene; CAS No. 526-73-8)
1,3,5-Trimethylbenzene (mesitylene; CAS No. 108-67-8)
Vinyl acetate (ethenyl acetate; CAS No. 108-05-4)
Vinyl chloride (chloroethene; CAS No. 75-01-4)
m-Xylene (1,3-dimethylbenzene; CAS No. 108-38-3)
o-Xylene (1,2-dimethylbenzene; CAS No. 95-47-6)

p-Xylene (1,4-dimethylbenzene; CAS No. 106-428-3)

Xylenes (dimethylbenzene, xylol; mixed structural isomers; CAS No. 1330-20-7)

Zinc (total) (CAS No. 7440-66-6)

Note: All parameters must be determined from unfiltered samples.

(Source: Amended at 44 Ill. Reg. 15577, effective September 3, 2020)