**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)