



103RD GENERAL ASSEMBLY

State of Illinois

2023 and 2024

SB2155

Introduced 2/10/2023, by Sen. Laura Fine

SYNOPSIS AS INTRODUCED:

415 ILCS 5/22.40b new

Amends the Environmental Protection Act. Provides that an owner or operator of an active municipal solid waste landfill having fewer than 450,000 tons of waste in place must submit an annual waste in place report to the Board or local authority. Places a cap on methane gas emissions according to specified times. Requires specified methods for measurements and tests conducted under the provisions. Provides that an owner or operator of a municipal solid waste landfill may request alternatives to the compliance measures, monitoring requirements, and test methods and procedures. Allows the Board and local authorities to assess and collect such fees as may be necessary to recover the direct and indirect costs associated with the implementation of the provision. Contains requirements for calculating landfill gas heat input capacity, gas collection and control systems, source tests, enforcement provisions, and other provisions.

LRB103 27476 CPF 53848 b

1 AN ACT concerning safety.

2 **Be it enacted by the People of the State of Illinois,**
3 **represented in the General Assembly:**

4 Section 5. The Environmental Protection Act is amended by
5 adding Section 22.40b as follows:

6 (415 ILCS 5/22.40b new)

7 Sec. 22.40b. Methane emissions; landfills.

8 (a) In this Section:

9 "Active municipal solid waste landfill" means a municipal
10 solid waste landfill that has accepted or is accepting solid
11 waste for disposal and has not been closed in accordance with
12 the requirements set forth in Sections 22.17 and 22.19b.

13 "Air pollution" means the presence in the outdoor
14 atmosphere of one or more air contaminants in sufficient
15 quantities and of such characteristic and duration as is, or
16 is likely to be, injurious to human health, plant or animal
17 life, or property or that unreasonably interferes with the
18 enjoyment of life and property.

19 "Ambient air" means the surrounding outside air.

20 "Closed municipal solid waste landfill" means a municipal
21 solid waste landfill that no longer accepts solid waste for
22 disposal and has been closed in accordance with the
23 requirements set forth in Sections 22.17 and 22.19b.

1 "Emission" means a release of an air contaminant into the
2 ambient air.

3 "Gas collection system" means a system that employs
4 various gas collection wells, connected piping, mechanical
5 blowers, fans, pumps, or compressors to create a pressure
6 gradient and that actively extracts landfill gas.

7 "Gas control device" means a device used to dispose of or
8 treat collected landfill gas, including, but not limited to,
9 enclosed flares, internal combustion engines, boilers,
10 boiler-to-steam turbine systems, fuel cells, and gas turbines.

11 "Gas control system" means a system that disposes of or
12 treats collected landfill gas by:

13 (1) combustion; or

14 (2) treatment of gas for subsequent sale or for sale
15 for offsite processing, including, but not limited to, for
16 transportation fuel and injection into a natural gas
17 pipeline.

18 "Local authority" means any air pollution control board
19 whose jurisdictional boundaries are coextensive with the
20 boundaries of one or more counties.

21 "Municipal solid waste landfill" means a discrete area of
22 land or an excavation that receives household waste and that
23 is not a land application site, surface impoundment, injection
24 well, or pile.

25 "Person" means an individual, firm, public or private
26 corporation, association, partnership, political subdivision

1 of the State, municipality, or governmental agency.

2 (b) This Section applies to all municipal solid waste
3 landfills except landfills that:

4 (1) receive only hazardous waste or are currently
5 regulated under the federal Comprehensive Environmental
6 Response, Compensation and Liability Act; or

7 (2) receive only inert waste or noncompostable wastes.

8 (c) The Agency shall propose, and the Board shall adopt,
9 rules to implement this Section. The rules shall be informed
10 by landfill methane rules and regulations adopted by the
11 California Air Resources Board, the Oregon Environmental
12 Quality Commission, and the United States Environmental
13 Protection Agency.

14 (d) An owner or operator of an active municipal solid
15 waste landfill having fewer than 450,000 tons of waste in
16 place must submit an annual waste in place report to the Board
17 or local authority. The waste in place report must be:

18 (1) prepared for the period of January 1 through
19 December 31 of each year;

20 (2) submitted to the Board or local authority on a
21 date during the subsequent calendar year by a date
22 established by the Board by rule; and

23 (3) submitted annually until either:

24 (A) the active municipal solid waste landfill
25 reaches a size greater than or equal to 450,000 tons of
26 waste in place; or

1 (B) the owner or operator submits a closure
2 notification under subsection (j).

3 (e) An owner or operator of an active municipal solid
4 waste landfill having greater than or equal to 450,000 tons of
5 waste in place or a closed municipal solid waste landfill
6 having greater than or equal to 750,000 tons of waste in place
7 must calculate the landfill gas heat input capacity in
8 accordance with subsection (j) and the Board's rules and must
9 submit a landfill gas heat input capacity report to the Board
10 or local authority. If the calculated landfill gas heat input
11 capacity is less than 3,000,000 Btus per hour recovered, the
12 owner or operator must:

13 (1) recalculate the landfill gas heat input capacity
14 annually using the procedures specified in subsection (j)
15 and the rules adopted under this Section; and

16 (2) submit an annual landfill gas heat input capacity
17 report to the Board or local authority until either:

18 (A) the calculated landfill gas heat input
19 capacity is greater than or equal to 3,000,000 Btus
20 per hour recovered; or

21 (B) if the municipal solid waste landfill is
22 active, the owner or operator submits a closure
23 notification in accordance with subsection (j).

24 If the landfill gas heat input capacity is greater than or
25 equal to 3,000,000 Btus per hour recovered, the owner or
26 operator must either:

1 (1) comply with the requirements of this Section and
2 the rules adopted under this Section; or

3 (2) demonstrate to the satisfaction of the Board or
4 local authority that after 4 consecutive quarterly
5 monitoring periods there is no measured concentration of
6 methane of 200 parts per million by volume or greater
7 using the instantaneous surface monitoring procedures
8 specified in other states' requirements and the rules
9 adopted under this Section, based on the monitoring
10 results, and:

11 (A) if there is any measured concentration of
12 methane of 200 parts per million by volume or greater
13 from the surface of an active, inactive, or closed
14 municipal solid waste landfill, comply with this
15 Section and the rules adopted under this Section;

16 (B) if there is no measured concentration of
17 methane of 200 parts per million by volume or greater
18 from the surface of an active municipal solid waste
19 landfill, recalculate the landfill gas heat input
20 capacity annually as required under this Section until
21 the owner or operator submits a closure notification
22 under this Section; or

23 (C) if there is no measured concentration of
24 methane of 200 parts per million by volume or greater
25 from the surface of a closed or inactive municipal
26 solid waste landfill, the requirements of this Section

1 and the rules adopted under this Section no longer
2 apply, provided that the following information is
3 submitted to and approved by the Board or local
4 authority:

5 (i) a waste in place report in accordance with
6 this Section and the rules adopted under this
7 Section; and

8 (ii) all instantaneous surface monitoring
9 records.

10 (f) An owner or operator of a municipal solid waste
11 landfill that has a calculated landfill gas heat input
12 capacity greater than or equal to 3,000,000 Btus per hour
13 recovered must install a gas collection and control system
14 that meets the requirements of this Section and the rules
15 adopted under this Section, unless the owner or operator
16 demonstrates to the satisfaction of the Board or local
17 authority that after 4 consecutive quarterly monitoring
18 periods there is no measured concentration of methane of 200
19 parts per million by volume or greater using instantaneous
20 surface monitoring procedures. If a municipal solid waste
21 landfill partners with a third party to operate all or a
22 portion of the gas collection and control system or energy
23 recovery device, the obligation to comply with this Section is
24 the responsibility of the owner or operator of the relevant
25 portion of the gas collection and control system or energy
26 recovery device. The gas collection and control system must:

1 (1) handle the expected gas generation flow rate from
2 the entire area of the municipal solid waste landfill and
3 must collect gas at an extraction rate to comply with the
4 surface methane emission limits under this Section and the
5 rules adopted under this Section;

6 (2) be designed and operated so that there is no
7 landfill gas leak that exceeds 500 parts per million by
8 volume, measured as methane, at any component under
9 positive pressure;

10 (3) if it uses a flare, achieve a methane destruction
11 efficiency of at least 99% by weight and must use either an
12 enclosed flare or, if the system uses an open flare, the
13 open flare:

14 (A) must meet the requirements of 40 CFR 60.18;

15 (B) if it was installed and operating before
16 December 31, 2022, may operate until January 1, 2032
17 unless the owner or operator demonstrates to the
18 satisfaction of the Board or local authority that the
19 landfill gas heat input capacity is less than
20 3,000,000 Btus per hour in accordance with this
21 Section and the rules adopted under this Section and
22 is insufficient to support the continuous operation of
23 an enclosed flare or other gas control device; and

24 (C) may be temporarily operated by the owner or
25 operator during the repair or maintenance of the gas
26 control system, while awaiting the installation of an

1 enclosed flare, or to address offsite gas migration
2 issues; an owner or operator seeking to temporarily
3 operate an open flare under this subparagraph must
4 submit a written request to the Board or local
5 authority in accordance with Section 50 and the rules
6 adopted under this Section;

7 (4) if it does not use a flare, either route the
8 collected gas to an energy recovery device or must route
9 the collected gas to a treatment system that processes the
10 collected gas for subsequent sale or use;

11 (5) if it routes the collected gas to an energy
12 recovery device or devices, the owner or operator of the
13 energy recovery device or devices must comply with the
14 following requirements:

15 (A) the device must achieve a methane destruction
16 efficiency of at least 97% by weight, except for
17 lean-burn internal combustion engines that were
18 installed and operating before January 1, 2022, which
19 must reduce the outlet methane concentration to less
20 than 3,000 parts per million by volume, dry basis
21 corrected to 15% oxygen; and

22 (B) if a boiler or a process heater is used as the
23 gas control device, the landfill gas stream must be
24 introduced into the flame zone, except that, where the
25 landfill gas is not the primary fuel for the boiler or
26 process heater, introduction of the landfill gas

1 stream into the flame zone is not required;
2 (6) if it routes the collected gas to a treatment
3 system that processes the collected gas for subsequent
4 sale or use, achieve a methane leak rate of 3% or less by
5 weight; venting processed landfill gas to the ambient air
6 is not allowed; and
7 (7) if the processed landfill gas cannot be routed for
8 subsequent sale or use, then the treated landfill gas must
9 be controlled according to paragraph (3).

10 An owner or operator of a municipal solid waste landfill
11 must conduct a source test for any gas control device subject
12 to this Section using the relevant test methods identified in
13 this Section. If a gas control device was in compliance with
14 relevant source testing requirements on June 9, 2022, the
15 owner or operator must conduct the source test no less
16 frequently than once every 5 years. If a gas control device was
17 not in compliance with source testing requirements on June 9,
18 2022, or if a subsequent source test shows the gas control
19 device is out of compliance, the owner or operator must
20 conduct the source test no less frequently than once each year
21 until 2 subsequent consecutive tests both show compliance.
22 Upon completion of the 2 subsequent consecutive compliant
23 tests, the owner or operator may return to conducting the
24 source test no less frequently than once every 5 years.

25 (g) Except as provided in subsection (e), beginning
26 January 1 of the year following the year in which the Board

1 adopts rules to implement this Section, or upon commencing
2 operation of a newly installed gas collection and control
3 system or modification of an existing gas collection and
4 control system, whichever is later, and except as provided by
5 the Board to accommodate significant technological
6 improvements, which may include, but are not limited to, the
7 installation of an energy recovery device, not to exceed 24
8 months after the Board adopts rules to implement this Section,
9 no location on a municipal solid waste landfill surface may
10 exceed the following methane concentration limits, dependent
11 upon whether the owner or operator of the municipal solid
12 waste landfills conducts instantaneous surface emissions
13 monitoring or integrated surface emissions monitoring:

14 (1) 500 parts per million by volume, other than
15 nonrepeatable momentary readings, as determined by
16 instantaneous surface emissions monitoring; or

17 (2) an average methane concentration limit of 25 parts
18 per million by volume as determined by integrated surface
19 emissions monitoring.

20 Any reading exceeding the limits set forth in paragraph
21 (1) must be recorded as an exceedance and the owner or operator
22 must: (i) record the date, location, and value of each
23 exceedance, along with retest dates and results and the
24 location of each exceedance must be clearly marked and
25 identified on a topographic map of the municipal solid waste
26 landfill, drawn to scale, with the location of both the

1 monitoring grids and the gas collection system clearly
2 identified; and (ii) take corrective action, which may
3 include, but is not limited to, maintenance or repair of the
4 cover, or well vacuum adjustments; the location or locations
5 of any exceedance must be remonitored within 10 calendar days
6 after a measured exceedance.

7 The requirements of this subsection do not apply to:

8 (A) the working face of a landfill;

9 (B) areas of a landfill surface where the landfill
10 cover material has been removed for the purpose of
11 installing, expanding, replacing, or repairing
12 components of the landfill cover system, the landfill
13 gas collection and control system, the leachate
14 collection and removal system, or a landfill gas
15 condensate collection and removal system;

16 (C) areas of a landfill surface where the landfill
17 cover material has been removed for law enforcement
18 activities requiring excavation; or

19 (D) areas of the landfill in which the landfill
20 owner or operator, or a designee of the owner or
21 operator, is engaged in active mining for minerals or
22 metals.

23 (h) An owner or operator of a municipal solid waste
24 landfill with a gas collection and control system must:

25 (1) conduct instantaneous or integrated surface
26 monitoring of the landfill surface according to rules

1 adopted by the Board;

2 (2) monitor the gas control system according to the
3 requirements specified in rules adopted by the Board; and

4 (3) monitor each individual wellhead to determine the
5 gauge pressure according to the requirements specified in
6 rules adopted by the Board.

7 (i) An owner or operator of a municipal solid waste
8 landfill must:

9 (1) maintain records and prepare reports in accordance
10 with this Section and any rules adopted under this
11 Section;

12 (2) maintain records related to monitoring, testing,
13 landfill operations, and the operation of a gas control
14 device, gas collection system, and gas control system; the
15 records must be provided by the owner or operator to the
16 Board or local authority within 5 business days after a
17 request from the Board or local authority;

18 (3) if the landfill ceases to accept waste, submit a
19 closure notification to the Board or local authority
20 within 30 days after ceasing to accept waste; and

21 (4) submit a gas collection and control system
22 equipment removal report to the Board or local authority
23 within 30 days after well capping or the removal or
24 cessation of operation of the gas collection, treatment,
25 or control system equipment.

26 An owner or operator of either an active municipal solid

1 waste landfill with 450,000 or more tons of waste in place or a
2 closed municipal solid waste landfill with 750,000 or more
3 tons of waste in place must prepare an annual report for the
4 period of January 1 through December 31 of each year. The
5 annual report must include a calculation of landfill gas heat
6 input capacity. Each annual report must be submitted to the
7 Board and local authority during the subsequent calendar year,
8 with the date of submission to be established through rules
9 adopted by the Board.

10 (j) Except as provided under paragraph (8), the following
11 methods must be used for measurements and tests conducted
12 under this Section:

13 (1) any instrument used for the measurement of methane
14 must be a hydrocarbon detector or other equivalent
15 instrument approved by the Board or local authority based
16 on standards adopted by the Board that address
17 calibration, specifications, and performance criteria;

18 (2) the determination of landfill gas heat input
19 capacity must be calculated consistent with the Board's
20 rules adopted under this Section;

21 (3) an owner or operator of a municipal solid waste
22 landfill must measure the landfill surface concentration
23 of methane using a hydrocarbon detector meeting the
24 requirements of this Section and the Board's rules adopted
25 under this Section;

26 (4) an owner or operator of a municipal solid waste

1 landfill must measure leaks using a hydrocarbon detector
2 meeting the requirements of this Section and the Board's
3 rules adopted under this Section;

4 (5) the expected gas generation flow rate must be
5 determined according to the Board's rules adopted under
6 this Section;

7 (6) the control device destruction efficiency must be
8 determined according to the Board's rules adopted under
9 this Section;

10 (7) gauge pressure must be determined using a handheld
11 manometer, magnehelic gauge, or other pressure measuring
12 device approved by the Board or local authority; and

13 (8) alternative test methods may be used if they are
14 approved in writing by the Board or local authority.

15 (k) The Board or local authority must allow the capping or
16 removal of the gas collection and control system at a closed
17 municipal solid waste landfill, provided that:

18 (1) the gas collection and control system has been in
19 operation for at least 15 years, unless the owner or
20 operator demonstrates to the satisfaction of the Board or
21 local authority that due to declining methane rates the
22 municipal solid waste landfill will be unable to operate
23 the gas collection and control system for a 15-year
24 period;

25 (2) surface methane concentration measurements do not
26 exceed the limits specified in this Section; and

1 (3) the owner or operator submits an equipment removal
2 report to the Board or local authority in accordance with
3 this Section and any rules adopted by the Board under this
4 Section.

5 Nothing in this Section may be interpreted to modify or
6 supersede requirements related to the capping or removal of
7 gas collection and control systems that may exist under this
8 Act, the federal Clean Air Act, or rules adopted under either
9 of those Acts.

10 (1) An owner or operator of a municipal solid waste
11 landfill may request alternatives to the compliance measures,
12 monitoring requirements, and test methods and procedures set
13 forth in this Section and the Board's rules adopted under this
14 Section. Any alternatives requested by the owner or operator
15 must be submitted in writing to the Board. The criteria that
16 the Board may use to evaluate alternative compliance option
17 requests include, but are not limited to:

18 (1) compliance history;

19 (2) documentation containing the landfill gas flow
20 rate and measured methane concentrations for individual
21 gas collection wells or components;

22 (3) permits;

23 (4) component testing and surface monitoring results;

24 (5) gas collection and control system operation,
25 maintenance, and inspection records; and

26 (6) historical meteorological data.

1 The Board must review and either approve or disapprove the
2 requested alternatives within 120 days. The Board may request
3 that additional information be submitted as part of the review
4 of the requested alternatives. If a request for an alternative
5 compliance option is denied, the Board must provide written
6 reasons for the denial. The Board must deny a request for
7 alternative compliance measures if the request does not
8 provide levels of enforceability or methane emissions control
9 that are equivalent to those set forth in this Section or in
10 rules adopted by the Board under this Section.

11 (m) The Board or a local authority may request that any
12 owner or operator of a municipal solid waste landfill
13 demonstrate that a landfill does not meet the applicability
14 criteria required under this Section. The demonstration must
15 be submitted to the Board or local authority within 90 days of
16 a written request received from the Board or local authority.

17 (n) Any person who violates this Section or any rules
18 adopted under this Section may incur a civil penalty. The
19 Board shall waive penalties if the owner or operator of the
20 landfill is actively taking corrective actions to control any
21 methane exceedances. Penalties collected under this Section
22 shall be deposited into the Environmental Protection Trust
23 Fund.

24 (o) The Board and local authorities may assess and collect
25 such fees as may be necessary to recover the direct and
26 indirect costs associated with the implementation of this

1 Section.