

**103RD GENERAL ASSEMBLY****State of Illinois****2023 and 2024****SB3393**

Introduced 2/8/2024, by Sen. Laura Fine

SYNOPSIS AS INTRODUCED:

415 ILCS 5/22.40b new

Amends the Environmental Protection Act. Requires an owner or operator of an active municipal solid waste landfill with than 200,000 or more tons of waste in place to submit an annual waste-in-place report to the Environmental Protection Agency until the active municipal solid waste landfill has 450,000 or more tons of waste in place or the Agency issues a certificate of closure to the site. Requires an owner or operator of an active municipal solid waste landfill having 200,000 or more tons of waste in place or a closed municipal solid waste landfill having 400,000 or more tons of waste in place to calculate the methane generation rate and submit a methane generation rate report to the Agency. Sets forth actions an owner or operator of a municipal solid waste landfill must take if there is a calculated methane generation rate that is greater than or equal to 664 metric tons. Requires an owner or operator of a municipal solid waste landfill to conduct a source test for any gas control device using certain test methods. Provides that no location on a municipal solid waste landfill surface may exceed specified methane concentration limits. Establishes the methods that must be used for measurements and tests. Sets forth penalties for violations of the provisions. Allows the Agency to adopt rules to implement the provisions. Makes other changes.

LRB103 36385 LNS 66486 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 "Advanced methane monitoring technology" means technology
14 that can detect methane emissions at landfills, including, but
15 not limited to, technologies such as drones, mobile ground
16 vehicles, continuous emissions monitoring systems, and
17 satellite technologies that measure surface methane at
18 landfills.

19 "Agency" means the Environmental Protection Agency.

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 post-closure requirements set forth in Sections 22.17 and

1 22.19b.

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

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

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

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

14 (1) combustion; or

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

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

23 "Person" means an individual, firm, public or private
24 corporation, association, partnership, political subdivision
25 of the State, municipality, or governmental agency.

26 (b) This Section applies to all municipal solid waste

1 landfills, except:

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

6 (2) landfills that receive only inert waste or
7 nondecomposable wastes.

8 (c) The Agency shall propose and adopt rules to implement
9 this Section.

10 (d) An owner or operator of an active municipal solid
11 waste landfill having less than 200,000 tons of waste in place
12 must submit an annual waste-in-place report to the Agency
13 until (i) the active municipal solid waste landfill has
14 450,000 or more tons of waste in place or (ii) the Agency
15 issues a certificate of closure to the site. The annual
16 waste-in-place report must be:

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

19 (2) submitted to the Agency in the immediately
20 following calendar year by a date established by the
21 Agency by rule.

22 (e) An owner or operator of an active municipal solid
23 waste landfill having 200,000 or more tons of waste in place or
24 a closed municipal solid waste landfill having 400,000 or more
25 tons of waste in place must calculate a methane generation
26 rate in accordance with subsection (k) and the Agency's rules

1 and must submit a methane generation rate report to the
2 Agency. If the calculated methane generation rate is less than
3 664 metric tons, the owner or operator must:

4 (1) recalculate the methane generation rate annually
5 using the procedures specified in subsection (j) and the
6 rules adopted under this Section; and

7 (2) submit an annual methane generation rate report to
8 the Agency until either:

9 (A) the calculated methane generation rate is
10 greater than or equal to 664 metric tons; or

11 (B) if the municipal solid waste landfill is
12 active, the owner or operator submits a closure
13 notification in accordance with subsection (i).

14 (f) If the methane generation rate is greater than or
15 equal to 664 metric tons, the owner or operator must either:

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

18 (2) demonstrate to the satisfaction of the Agency that
19 after 4 years there is no measured concentration of
20 methane that is greater than or equal to 200 parts per
21 million, by volume, using the instantaneous surface
22 monitoring procedures specified in the rules adopted under
23 this Section, based on the monitoring results, and:

24 (A) if there is any measured concentration of
25 methane that is greater than or equal to 200 parts per
26 million, by volume, from the surface of the active or

1 closed municipal solid waste landfill, comply with
2 this Section and the rules adopted under this Section;

3 (B) if there is no measured concentration of
4 methane that is greater than or equal to 200 parts per
5 million, by volume, from the surface of the active
6 municipal solid waste landfill, recalculate the
7 methane generation rate annually as required under
8 this Section until the owner or operator submits a
9 closure notification under subsection (j); or

10 (C) if there is no measured concentration of
11 methane that is greater than or equal to 200 parts per
12 million, by volume, from the surface of a closed
13 municipal solid waste landfill, submit to the Agency
14 for approval:

15 (i) a waste-in-place report in accordance with
16 this Section and the rules adopted under this
17 Section; and

18 (ii) all instantaneous surface monitoring
19 records.

20 (g) An owner or operator of a municipal solid waste
21 landfill that has a calculated methane generation rate that is
22 greater than or equal to 664 metric tons must install a gas
23 collection and control system that meets the requirements of
24 this Section and the rules adopted under this Section, unless
25 the owner or operator demonstrates to the satisfaction of the
26 Agency that after 4 years there is no measured concentration

1 of methane that is greater than or equal to 200 parts per
2 million, by volume, using instantaneous surface monitoring
3 procedures. If a municipal solid waste landfill partners with
4 a third party to operate all or a portion of the gas collection
5 and control system or energy recovery device, the obligation
6 to comply with this Section is the responsibility of the owner
7 or operator of the relevant portion of the gas collection and
8 control system or energy recovery device.

9 (1) The gas collection and control system required
10 under this subsection (g) must handle the expected gas
11 generation flow rate from the entire area of the municipal
12 solid waste landfill and must collect gas at an extraction
13 rate that complies with the surface methane emission
14 limits under this Section and the rules adopted under this
15 Section.

16 (2) The gas collection and control system required
17 under this subsection (g) must be designed and operated so
18 that there is no landfill gas leak that results in a
19 concentration of methane that is greater than or equal to
20 500 parts per million of methane, by volume, measured at
21 any component under positive pressure, and it must collect
22 gas in all areas of the landfill at an extraction rate in
23 compliance with the surface methane emission limits.

24 (3) If the gas collection and control system required
25 under this subsection (g) uses a flare, the gas collection
26 and control system must achieve a methane destruction

1 efficiency of at least 99%, by weight, and it may use an
2 enclosed flare or, until January 1, 2029, an open flare.

3 (4) If the gas collection and control system uses an
4 open flare:

5 (A) the open flare must meet the requirements of
6 40 CFR 60.18; and

7 (B) the owner must report to the Agency the
8 duration of the open flare if the duration exceeded 10
9 days.

10 (5) If the gas collection and control system does not
11 use a flare, the gas collection and control system must
12 either route the collected gas to an energy recovery
13 device or must route the collected gas to a treatment
14 system that processes the collected gas for subsequent
15 sale or use.

16 (6) If the gas collection and control system routes
17 the collected gas to an energy recovery device or devices,
18 the owner or operator of the energy recovery device or
19 devices must comply with the following requirements:

20 (A) the device must achieve a methane destruction
21 efficiency of at least 99%, by weight, except for
22 lean-burn internal combustion engines that were
23 installed and operating before January 1, 2022, which
24 must reduce the outlet methane concentration to less
25 than 3,000 parts per million, by volume, dry basis
26 corrected to 15% oxygen; and

1 (B) if a boiler or a process heater is used as the
2 gas control device, the landfill gas stream must be
3 introduced into the flame zone, except that, where the
4 landfill gas is not the primary fuel for the boiler or
5 process heater, introduction of the landfill gas
6 stream into the flame zone is not required.

7 (7) If the gas collection and control system routes
8 the collected gas to a treatment system that processes the
9 collected gas for subsequent sale or use, the gas
10 collection and control system must achieve a methane leak
11 rate of 1% or less, by weight, and venting processed
12 landfill gas to the ambient air is not allowed.

13 (8) If the processed landfill gas cannot be routed for
14 subsequent sale or use, then the treated landfill gas must
15 achieve a methane destruction efficiency of at least 99%,
16 by weight.

17 (h) Each owner or operator of an active municipal solid
18 waste landfill with a gas collection and control system must
19 operate the gas collection and control system so that gas is
20 collected from areas, cells, or groups of cells in the
21 municipal solid waste landfill in which solid waste has been
22 in place for one or more years.

23 (i) An owner or operator of a municipal solid waste
24 landfill must conduct a source test for any gas control device
25 that is subject to this Section, using the relevant test
26 methods identified in or adopted pursuant to this Section. If

1 a gas control device was in compliance with relevant source
2 testing requirements on June 9, 2023, the owner or operator
3 must conduct the source test no less frequently than once
4 every year. If a gas control device was not in compliance with
5 source testing requirements on June 9, 2023, or if a
6 subsequent source test shows the gas control device is out of
7 compliance, the owner or operator must conduct the source test
8 no less frequently than once every 6 months until 2 subsequent
9 consecutive tests both show compliance.

10 (j) Except as provided in subsection (e), beginning on
11 January 1 of the year following the year in which the Agency
12 adopts rules to implement this Section or, in the case of a gas
13 collection and control system installed or modified after that
14 date, beginning on the date that the gas collection and
15 control system begins operation, whichever is later, the
16 concentration of methane measured from the surface of the
17 landfill shall not, except in the case of nonrepeatable
18 momentary readings, exceed:

19 (1) 200 parts per million, by volume, if measured by
20 instantaneous surface emissions monitoring; or

21 (2) an average methane concentration limit of 25 parts
22 per million, by volume, if measured by integrated surface
23 emissions monitoring.

24 The owner or operator must record all readings, must
25 include the date, location, and value of each reading, and,
26 for any reading that exceeds the limits, must record the date,

1 location, and value of each exceedance, along with retest
2 dates and results and the location of each exceedance must be
3 clearly marked and identified on a topographic map of the
4 municipal solid waste landfill, drawn to scale, with the
5 location of both the monitoring grids and the gas collection
6 system clearly identified; and (ii) take corrective action,
7 which may include, but is not limited to, maintenance or
8 repair of the cover, or well vacuum adjustments. The location
9 or locations of any exceedance must be monitored within 10
10 calendar days after a measured exceedance.

11 Through its implementing rules, the Agency must determine
12 the monitoring actions and corrective actions required in
13 response to a methane emissions reading provided to the Agency
14 or the landfill operator or owner by a credible third party,
15 with the goal of quickly mitigating methane emission point
16 sources.

17 (k) An owner or operator of a municipal solid waste
18 landfill with a gas collection and control system must:

19 (1) conduct instantaneous and integrated surface
20 monitoring of the landfill surface, including using
21 advanced methane technology to assist with the objective
22 of comprehensive monitoring across the entire surface
23 area, according to rules adopted by the Agency;

24 (2) monitor the gas control system according to the
25 requirements specified in rules adopted by the Agency; and

26 (3) monitor each individual wellhead to determine the

1 gauge pressure and water accumulation levels according to
2 the requirements specified in rules adopted by the Agency.

3 (1) An owner or operator of a municipal solid waste
4 landfill must:

5 (1) maintain records and prepare reports in accordance
6 with this Section and any rules adopted under this
7 Section;

8 (2) maintain records related to monitoring, testing,
9 landfill operations, and the operation of a gas control
10 device, gas collection system, and gas control system. The
11 records must be provided by the owner or operator to the
12 Agency within 5 business days after a request from the
13 Agency;

14 (3) maintain records related to the type of face and
15 percentage of face used, timing of final cover
16 installation on each cell, the dates of intermediate and
17 final cover installation, the type of cover installed, and
18 the annual amount of methane gas collected from the waste
19 under intermediate and daily cover;

20 (4) if the landfill ceases to accept waste, submit a
21 closure notification to the Agency within 30 days after
22 ceasing to accept waste; and

23 (5) submit a gas collection and control system
24 equipment removal report to the Agency within 30 days
25 after well capping or the removal or cessation of
26 operation of the gas collection, treatment, or control

1 system equipment. An owner or operator of either an active
2 municipal solid waste landfill with 200,000 or more tons
3 of waste-in-place or a closed municipal solid waste
4 landfill with 400,000 or more tons of waste-in-place must
5 prepare an annual report for the period of January 1
6 through December 31 of each year. The annual report must
7 include a calculation of methane generation rate. Each
8 annual report must be submitted to the Agency during the
9 subsequent calendar year, with the date of submission to
10 be established through rules.

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

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

19 (2) the determination of methane generation rate must
20 be calculated consistent with the rules adopted under this
21 Section;

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

1 (4) an owner or operator of a municipal solid waste
2 landfill must measure leaks using a hydrocarbon detector,
3 inclusive of advanced methane detection technology,
4 meeting the requirements of this Section and the rules
5 adopted under this Section;

6 (5) the expected gas generation flow rate must be
7 determined according to the rules adopted under this
8 Section;

9 (6) the control device destruction efficiency must be
10 at least 99% and must be compliant with Agency rules;

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

14 (8) alternative test methods may be used if they are
15 approved in writing by the Agency; and

16 (9) water accumulation levels must be determined
17 according to the rules adopted under this Section.

18 In the rules adopted under this Section, the Agency shall
19 develop a performance-based standard for permanent removal of
20 the gas collection and control system after landfill closure,
21 with a procedure for surface emissions demonstration.

22 (n) An owner or operator of a municipal solid waste
23 landfill may request alternatives to the compliance measures,
24 monitoring requirements, and test methods and procedures set
25 forth in this Section and the rules adopted under this
26 Section. Any alternatives requested by the owner or operator

1 must be submitted in writing to the Agency. The criteria that
2 the Agency may use to evaluate alternative compliance option
3 requests include, but are not limited to:

4 (1) compliance history;

5 (2) documentation containing the landfill gas flow
6 rate and measured methane concentrations for individual
7 gas collection wells or components;

8 (3) permits;

9 (4) component testing and surface monitoring results;

10 (5) gas collection and control system operation,
11 maintenance, and inspection records; and

12 (6) historical meteorological data.

13 The Agency must review and either approve or disapprove
14 the requested alternatives within 120 days. The Agency may
15 request that additional information be submitted as part of
16 the review of the requested alternatives. If a request for an
17 alternative compliance option is denied, the Agency must
18 provide written reasons for the denial. The Agency must deny a
19 request for alternative compliance measures if the request
20 does not provide levels of enforceability or methane emissions
21 control that are equivalent to those set forth in this Section
22 or in rules adopted by the Agency under this Section.

23 (o) The Agency may request that any owner or operator of a
24 municipal solid waste landfill demonstrate that a landfill
25 does not meet the applicability criteria required under this
26 Section. The demonstration must be submitted to the Agency

1 within 90 days of a written request received from the Agency.

2 (p) Any person who violates this Section or any rules
3 adopted under this Section may incur a civil penalty under
4 Section 42 of the Environmental Protection Act. The Agency
5 shall waive penalties if the owner or operator of the landfill
6 is actively taking corrective actions to control any methane
7 exceedances. Penalties collected under this Section shall be
8 deposited into the Environmental Protection Trust Fund.

9 (q) The Agency may assess and collect such fees as may be
10 necessary to recover the direct and indirect costs associated
11 with the implementation of this Section.