

MAINE STATE LEGISLATURE

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114th MAINE LEGISLATURE

FIRST REGULAR SESSION - 1989

Legislative Document

No. 1013

H.P. 736

House of Representatives, April 3, 1989

Submitted by the Department of Environmental Protection pursuant to Joint Rule 24.

Reference to the Committee on Energy and Natural Resources suggested and ordered printed.

A handwritten signature in cursive script that reads "Ed Pert".

EDWIN H. PERT, Clerk

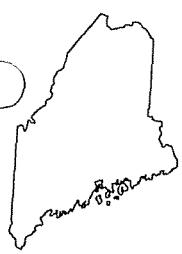
Presented by Representative WEBSTER of Cape Elizabeth.

Cosponsored by Representative COLES of Harpswell, Senator PERKINS of Hancock and Representative MARSH of West Gardiner.

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND EIGHTY-NINE

An Act to Implement an Ozone Control Strategy for the State.



1 **Be it enacted by the People of the State of Maine as follows:**

3 **Sec. 1. 38 MRSA §582, sub-§6-B,** as enacted by PL 1979, c.
385, §1, is repealed and the following enacted in its place:

5 6-B. Bulk gasoline terminal. "Bulk gasoline terminal"
7 means a gasoline storage facility which receives gasoline
9 from refineries, primarily by pipeline, ship or barge, and
11 delivers gasoline to bulk gasoline plants or commercial or
retail accounts primarily by tank truck, and has a daily
average throughput of more than 76,000 liters, or 20,000
gallons, of gasoline.

13 **Sec. 2. 38 MRSA §609,** as enacted by PL 1979, c. 385, §2, is
15 repealed and the following enacted in its place:

17 §609. Petroleum liquid storage vapor control

19 1. Scope. This section shall apply in the following
21 circumstances.

23 A. This section shall be applicable in all ambient air
quality regions of the State.

25 B. This section shall apply to all fixed-roof storage
27 vessels with capacities greater than 150,000 liters, or
39,000 gallons, containing volatile petroleum liquids whose
29 true vapor pressure is greater than 10.5 kilo pascals or
1.52 pounds per square inch absolute, or a Reid vapor
31 pressure of 4 pounds per square inch. The fixed-roof
storage vessels are subject to New Source Performance
33 Standards as of the dates specified in and in accordance
with the requirements contained in 40 Code of Federal
Regulations, Part 60, Subparts K, K(a) and K(b).

35 2. Prohibition. No owner or operator of a fixed-roof
37 storage vessel may permit the use of those vessels unless:

39 A. The vessels have been retrofitted with an internal
floating roof equipped with a closure seal, or seals, to
41 close the visual space between the roof edge and tank wall;
or the vessels have been retrofitted with equally effective
43 alternative controls, as approved by the commissioner and
the United States Environmental Protection Agency;

45 B. The vessel is maintained so that there are no visible
47 holes, tears or other openings in the seal or any seal
fabric or materials;

49 C. All openings except stub drains are equipped with
51 covers, lids or seals so that:

1 (1) The cover, lid or seal is in the closed position
3 at all times except when in actual use;

5 (2) Automatic bleeder vents are closed at all times
7 except when the roof is floated off or landed on the
9 roof leg supports; and

11 (3) Rim vents, if provided, are set to open only when
13 the roof is being floated off the roof by supports or
15 at the manufacturer's recommended setting;

17 D. Routine inspections are conducted through roof hatches
19 once every 6 months; and

21 E. A complete inspection of cover and seal is conducted at
23 least once per year.

25 3. Emission testing. The determination of compliance under
27 this section may be made by visual inspection of the floating
29 cover through the roof hatches by department staff or other
31 qualified representatives of the department. The source shall be
33 found in compliance if:

35 A. The seal has no visible holes, tears or other openings
37 and is uniformly in place around the circumference of the
39 cover between the cover and tank well;

41 B. The cover is uniformly floating on or above the liquid
43 and there are no visible holes, tears or other openings in
45 the surface of the cover and no liquid has accumulated on
47 the cover; and

49 C. All records are being properly maintained.

51 4. Compliance schedule. The owner or operator of
53 fixed-roof petroleum storage vessels as described in this
55 subsection shall adhere to the increments of progress contained
57 in the following schedules.

59 A. The owner or operator of fixed-roof petroleum storage
61 vessels in Air Quality Control Regions I, IA and II, unless
63 previously exempted, proposing to install a floating roof or
65 other acceptable volatile organic compound emission control
67 equipment shall adhere to the increments of progress
69 contained in the following schedule and shall report to the
71 department within 15 days of the prescribed deadline the
73 status of compliance with the increment of progress.

75 (1) Final plans for the floating roof and other
77 necessary modifications or other acceptable volatile
79 organic compound emission control equipment shall be
81 submitted before November 1, 1979.

1
3 (2) Contracts for installation of the floating roof, other modifications or other acceptable volatile organic compound emission control equipment or purchase orders for component parts shall be issued before March 1, 1980.

7 (3) Initiation of on-site construction or installation of acceptable volatile organic compound emission control equipment shall begin before July 1, 1980.

11 (4) Final compliance shall be achieved before July 1, 1981.

15 B. The owner or operator of fixed-roof petroleum storage vessels in Air Quality Control Regions III, IV and V, as well as those facilities previously exempted under paragraph A proposing to install a floating roof or other acceptable volatile organic compound emission control equipment, shall adhere to the increments of progress contained in the following schedule and shall report to the department within 15 days of the prescribed deadline the status of compliance with the increment of progress.

25 (1) Final plans for the floating roof, other necessary modifications or other acceptable volatile organic compound emission control equipment shall be submitted before November 1, 1989.

29 (2) Contracts for installation of the floating roof, other modifications or other acceptable volatile organic compound emission control equipment or purchase orders for component parts shall be issued before March 1, 1990.

35 (3) Initiation of on-site construction or installation of acceptable volatile organic compound emission control equipment shall begin before July 1, 1990.

39 (4) Final compliance shall be achieved before July 1, 1991.

43 5. Records. The owner or operator of a fixed-roof storage vessel covered under this section shall assure that the following records are maintained for a minimum of 2 years:

47 A. Reports of the results of inspections conducted under subsection 2, paragraphs D and E;

49 B. A record of the monthly throughput quantities and types of volatile petroleum liquids for each storage vessel and period of storage; and

1 C. Records of the average monthly storage temperatures and
3 true vapor pressures of volatile petroleum liquids stored.

5 These records shall be available for inspection during normal
7 business hours and copies shall be provided to the commissioner
 or the commissioner's representative upon request.

9 **Sec. 3. 38 MRSA §609-A, 609-B and 609-C are enacted to read:**

11 §609-A. Gasoline service station vapor control

13 1. Scope. This section shall be applicable in all ambient
15 air quality control regions in the State.

17 2. Prohibition. No owner or operator of a gasoline
19 dispensing facility described in this subsection may permit
 gasoline to be loaded into an underground storage tank except as
 provided in this subsection.

21 A. After October 1, 1989, no owner or operator of any
23 gasoline dispensing facility with an annual throughput of
25 greater than 100,000 gallons of gasoline may permit gasoline
27 to be loaded into an underground storage tank unless a
 submerged fill pipe extends into the gasoline storage tank
 to within 6 inches of the bottom.

29 B. After October 1, 1989, no owner or operator of any
31 gasoline dispensing facility with an annual throughput of
33 greater than 250,000 gallons of gasoline and that has a tank
35 scheduled for removal by October 1, 1989, pursuant to
37 section 563-A, subsections 1 and 2, may permit gasoline to
 be loaded into that underground storage tank unless a vapor
 balance system has been properly installed and which is
 maintained in good working order and ensures a closed vapor
 loop between the tank truck discharging gasoline and the
 underground storage tank.

39 C. After October 1, 1991, no owner or operator of any
41 gasoline dispensing facility with an annual gasoline
43 throughput of greater than 250,000 gallons of gasoline may
45 permit gasoline to be loaded into an underground storage
47 tank unless a vapor balance system has been properly
 installed and which is maintained in good working order and
 ensures a closed vapor loop between the tank truck
 discharging gasoline and the underground storage tank.

49 3. Variance. Those gasoline dispensing facilities that
51 have an underground storage tank scheduled for removal after
 October 1, 1991, pursuant to section 563-A, subsections 1 and 2,
 may apply prior to July 1, 1991, to the commissioner in writing
 for a variance from the October 1, 1991, compliance date referred

1 to in subsection 2, paragraph C. Variances shall be considered
3 on a case-by-case basis for those facilities that may have to
5 undergo excessively expensive and premature excavation due to
7 such complications as:

9 A. Irregular shaped or sized fill pipes;

11 B. Diameter of fill pipes less than 3 inches; or

13 C. Inadequate clearance or similar problems that require
15 extensive excavation.

17 Each variance granted shall expire no later than October 1, 1994.

19 4. Records. Beginning July 1, 1989, each gasoline
21 dispensing facility in the State shall maintain records regarding
23 the quantity of gasoline dispensed each month. Copies of these
25 records shall be maintained for a minimum of 2 years. These
27 records shall be available for inspection during normal business
29 hours and copies shall be provided to the commissioner or the
31 commissioner's representative upon request.

33 §609-B. Motor vehicle fuel volatility limit

35 1. Scope. This section shall be applicable in all ambient
37 air quality control regions in the State.

39 2. Prohibition. No owner or operator of any bulk gasoline
41 terminal nor any person who imports gasoline directly to a
43 gasoline service station or a bulk gasoline plant may dispense,
45 sell or supply as fuel for motor vehicles a gasoline having a
47 Reid vapor pressure greater than 9.0 pounds per square inch
49 during the period of May 1, 1989, through September 15, 1989, and
51 during the period of May 1st through September 15th of each
successive year.

3. Reid vapor pressure testing. For purposes of showing
compliance with this section, any emission test or fuel test
required by the department shall be conducted in accordance with
ASTM method D4177-82, ASTM method D4057-81, ASTM method D323-58
or any other method approved by the commissioner and the United
States Environmental Protection Agency.

4. Records and reports. Any owner or operator of a bulk
gasoline terminal and any person who imports gasoline directly to
a gasoline service station or a bulk gasoline plant shall
maintain records on the Reid vapor pressure of any gasoline that
is delivered to or distributed from that terminal, plant or
station for at least 2 years. These records shall be available
for inspection during normal business hours and copies shall be
provided to the commissioner or the commissioner's representative
upon request.

1
3 §609-C. Gasoline tank truck tightness; self-certification

5 1. Scope. This section shall be applicable in all ambient
air quality control regions in the State.

7 2. Prohibition. The following acts are prohibited.

9 A. After May 1, 1989, no person owning, leasing or
controlling a tank truck that carries gasoline with a true
vapor pressure of 1.5 pounds per square inch, or 10.5 kilo
pascals, or greater at 60° Fahrenheit or a Reid vapor
pressure of 4 pounds per square inch, or 27 kilo pascals,
and receives fuel from a bulk gasoline terminal subject to
section 610 may permit the tank truck to be loaded or
unloaded unless the tank truck:

17 (1) Has been certified as leak-tight according to the
procedure specified in subsection 4; and

21 (2) Displays the initials "DEP" attached to both the
left and right bulkhead of the tank truck in
contrasting letters that are no less than 2 inches high
and displays the date that the test was conducted and
that the certification test approval expires June 1st
of the year following the test.

27 B. The owner or operator of a bulk gasoline terminal with a
vapor recovery system subject to section 610 shall design
and operate the vapor recovery system in such a manner that,
during loading operations at the loading rack:

33 (1) The tank compartments are not subjected to a gauge
pressure exceeding 18 inches of water or a vacuum
exceeding 6 inches of water;

37 (2) Readings equal to or greater than 100 percent of
the lower explosive limit, measured as 2.2 percent
propane by volume in air, are not obtained within one
inch, or 2.5 centimeters, around all loading couplings
and vapor lines and fittings employed in transferring
gasoline to the tank truck; and

43 (3) There are no visible liquid leaks in the vicinity
of the loading rack.

47 3. Tightness standard. Tightness standards shall be as
follows.

49 A. A tank truck subject to the provisions of this section
may sustain a pressure change of no more than 3 inches of
water over 5 consecutive minutes when pressurized to a gauge
51

1 pressure of 18 inches of water or when evacuated to a gauge
3 pressure of 6 inches of water when tested using the
procedure specified in subsection 4.

5 B. A tank truck certified according to subsection 4 must
7 remain leak-tight following the certification test. To
9 verify that this requirement is being met, spot checks with
11 a combustible gas detector must not reveal readings equal to
13 or greater than 100 percent of the lower explosive limit
measured as 2.2 percent propane by volume in air, when
measured at a distance of one inch, or 2.5 centimeters, from
potential leak sources.

15 4. Annual certification test. A tank truck subject to the
17 provisions of this section must be tested annually by the owner
19 or owner's agent using Reference Method 27, as amended and
21 defined in 40 Code of Federal Regulations, Part 60, Appendix A,
Reference Method 27, or any other methods approved by the
commissioner and the United States Environmental Protection
Agency. The department must be informed at least 24 hours in
advance of each certification test.

23 The owner or the owner's agent conducting the certification test
25 must have attended a tank truck tightness certification workshop
as approved by the commissioner.

27 5. Compliance schedule. The owner or operator of any tank
29 truck that fails to meet any of these requirements shall repair
31 and retest the tank truck within 15 days. No owner or operator
33 of any tank truck may use or allow to be used any tank truck
which fails to meet all the requirements of this section after
retesting.

35 6. Spot inspection tests. The department may, at any time
37 without announcement, measure the back pressure during the
39 loading of tank trucks at the loading rack or the emissions as a
41 percentage of the lower explosive limit from a tank truck using a
43 combustible gas detector to determine the compliance of the tank
trucks and vapor collection systems with the requirements set
forth in this section. The leak tightness of a tank truck and
vapor collection systems shall be measured by use of a gasoline
leak detection technique which uses a combustible gas detector or
by use of other means approved by the commissioner.

45 7. Records. Any person owning, leasing or controlling the
47 day-to-day activities of a tank truck subject to the provisions
49 of this section shall maintain the following records:

51 A. The tank identification number, which shall include the
manufacturer's serial number, vehicle identification number
or the owner's identification number;

1 B. The calendar year during which the tank was manufactured;

3 C. The date and location of the pressure-vacuum test; if
5 failed, then the date and location of the retest shall be
7 recorded as well;

9 D. The name, title and telephone number of the person who
11 conducted the test, and the name and address of the company
13 where the person is employed; and

15 E. A copy of the test record showing the following:

17 (1) The tank pressure at the start of the pressure
19 test;

21 (2) The tank pressure at the end of the pressure test;

23 (3) The tank pressure at the start of the vacuum test;

25 (4) The tank pressure at the end of the vacuum test;
27 and

29 (5) A list of all repairs which were made to the tank
31 truck to enable it to pass all applicable requirements
33 of the test method.

35 Copies of the records are to be retained by the owner or operator
37 of the tank truck for a minimum of 2 years after the date on
39 which the test was conducted. These records shall be available
41 for inspection during normal business hours and copies shall be
43 provided to the commissioner or the commissioner's representative
45 upon request.

47 8. Reciprocity. At the discretion of the commissioner, the
49 requirements for testing and marking gasoline transport vehicles
51 subject to this section may be satisfied if the vehicle undergoes
 equivalent certification in another state.

Sec. 4. 38 MRS §610, as amended by PL 1981, c. 580, §§1 and
 2, is repealed and the following enacted in its place:

§610. Petroleum liquids transfer vapor recovery

1. Scope. This section shall apply in the following
 circumstances.

A. This section applies to all ambient air quality control
 regions of the State.

B. This section shall apply to all bulk gasoline terminals
 that have been in existence prior to December 31, 1978, and

1 that have a daily throughput of 20,000 gallons or more and
3 the appurtenant equipment necessary to load tanks, trucks or
5 trailer compartments. The bulk gasoline terminals built or
7 modified after December 17, 1980, are subject to New Source
9 Performance Standards as defined in 40 Code of Federal
11 Regulations, Part 60, Subpart XX.

12 2. Prohibition. No owner or operator of any bulk gasoline
14 terminal may permit gasoline to be loaded into any tank truck or
16 trailer unless:

17 A. The tank truck or trailer has been certified as
19 vapor-tight, as determined by the requirements specified in
21 section 609-C;

22 B. The bulk gasoline terminal is equipped to vent all
24 displaced vapors and gases only to a vapor control system
26 that has been properly installed and which is maintained in
28 good working order, and which must be in operation at all
30 times gasoline is being transferred to tank trucks from the
32 storage tanks. This vapor control system shall consist of
34 the following:

35 (1) An absorber or condensation system which processes
37 and recovers at least 90 percent by weight of all
39 vapors and gases from the equipment being controlled;

40 (2) A vapor collection system which directs all vapors
42 to a fuel gas system; or

43 (3) Any other equivalent control system that has the
45 express written approval of the commissioner and the
47 United States Environmental Protection Agency.

48 C. A means is provided to prevent liquid drainage from the
50 loading device when it is not in use or to accomplish
52 complete drainage before the loading device is
54 disconnected. There shall be no liquid drainage from the
56 loading device when it is not in use;

57 D. All loading and vapor lines are equipped with fittings
59 which make vapor-tight connections and which close
61 automatically when disconnected;

62 E. The pressure in the vapor collection system is not
64 allowed to exceed the tank truck or trailer pressure relief
66 settings; and

67 Sources may not allow gasoline to be discarded in sewers or
69 stored in open containers or handled in any manner that would
71 result in evaporation.

1 3. Emission standard. No owner or operator of any bulk
2 gasoline terminal may allow the mass emissions of volatile
3 organic compounds from the terminal to exceed the instantaneous
4 emission limit of 80 milligrams per liter, or 4.7 grains per
5 gallon, of gasoline transferred.

7 4. Compliance schedule. The owners or operators of bulk
8 gasoline terminals as described in this subsection shall adhere
9 to the increments of progress contained in the following
10 schedules.

11 A. The owner or operator of bulk gasoline terminals in Air
12 Quality Control Regions I, IA and II, unless previously
13 exempted, proposing to install a vapor recovery system or
14 other acceptable volatile organic compound emission control
15 equipment approved under subsection 2, paragraph B, shall
16 adhere to the increments of progress contained in the
17 following schedule and shall report to the department within
18 15 days of the prescribed deadline the status of compliance
19 with the increment of progress.

21 (1) Final plans for the acceptable volatile organic
22 compound emission control equipment shall be submitted
23 before November 1, 1979.

25 (2) Contracts for installation of the acceptable
26 volatile organic compound emission control equipment or
27 purchase orders for component parts shall be issued
28 before March 1, 1980.

31 (3) Initiation of on-site construction or installation
32 of acceptable volatile organic compound emission
33 control equipment shall begin before July 1, 1980.

35 (4) Final compliance shall be achieved before July 1,
36 1981.

37 B. The owner or operator of a bulk gasoline terminal in Air
38 Quality Control Regions III, IV and V, as well as those
39 facilities previously exempted under paragraph A, proposing
40 to install a vapor recovery system or other acceptable
41 volatile organic compound emission control equipment,
42 approved under subsection 2, paragraph B, shall adhere to
43 the increments of progress contained in the following
44 schedule and shall report to the department within 15 days
45 of the prescribed deadline the status of compliance with the
46 increment of progress.

49 (1) Final plans for acceptable volatile organic
50 compound emission control equipment shall be submitted
51 before November 1, 1989.

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(2) Contracts for installation of acceptable volatile organic compound emission control equipment or purchase orders for component parts shall be issued before March 1, 1990.

(3) Initiation of on-site construction or installation of acceptable emission control equipment shall begin before July 1, 1990.

(4) Final compliance shall be achieved before July 1, 1991.

5. Reports. The owner or operator of any bulk gasoline terminal shall submit a report to the department certifying that each increment of progress has been met.

6. Emission testing. Compliance with this standard shall be determined by methods promulgated in 40 Code of Federal Regulations, Part 60.503, or other methods approved by the commissioner and the United States Environmental Protection Agency.

STATEMENT OF FACT

This bill proposes to reduce gasoline vapors emitted into the air in order to reduce ground-level ozone, a photochemical oxidant which can cause difficulty in breathing, irritation to eyes and worsen respiratory illnesses.

Ozone is formed when volatile organic compounds combine with nitrogen oxides, in the presence of sunlight, to produce ozone. One of the largest sources of volatile organic compounds is gasoline marketing facilities.

Maine continues to exceed both the federal and state air quality standard for ozone. The summer of 1988 has proven to be the worst year in a decade with record levels of ozone recorded throughout the State.

On August 10, 1988, the Board of Environmental Protection adopted control measures to further reduce volatile organic compounds in Maine. In summary, these measures include:

1. Expanding the scope of requirement of floating roofs and vapor recovery systems for bulk gasoline terminals statewide;
2. Reducing the volatility of gasoline during the summer months;

1 3. Installing "drop tubes" and vapor balance systems for
major gasoline service stations; and

3
5 4. Requiring an annual self-certification leak test for
gasoline tank trucks.

7 The combined implementation of these control measures will
reduce the gasoline vapors emitted in Maine by over 7500 tons per
9 year, which is equivalent to about 2 million gallons of gasoline.