

- 3a. Storage Tanks 1 through 9 are subject to a New Source Performance Standard (NSPS), 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Tanks (Including Petroleum Liquid Storage Tanks). The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
- b. The loading racks are subject to a New Source Performance Standard (NSPS), 40 CFR 60, Subparts A and XX, Standards of Performance for Bulk Gasoline Terminals. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
- 4. This source is not subject to the requirements of the National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations), 40 CFR 63. The Permittee has taken federally enforceable limitations on hazardous air pollutants (HAPs) as set forth in Condition 6b. and Condition 16; therefore, 40 CFR 63, Subpart R is not applicable. The Permittee shall maintain records and document compliance with annual limits determined from a running total of 12 months of data.
- 5a. The Permittee shall not store a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa (11.1 psi). Such storage shall require each such storage tank to be equipped with a closed vent system and control device, as specified in 40 CFR 60.112b(a)(3). Such a modification shall require a revision of the construction and operating permits.
- b. Storage Tank 3 shall only store liquids with a maximum true vapor pressure less than 3.5 kPa (for tanks with a capacity greater than or equal to 151 m³) to be exempt from 40 CFR 60, Subparts A and Kb, except for the requirements specified in 40 CFR 60.116b(a) and (b).
- 6a. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Throughput (Gal/Year)</u>	<u>Volatile Organic Material Emissions</u>	
		<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Storage Tanks	300,000,000	1.92	23.03
Loading Rack	300,000,000	3.66	43.92
Total Fugitives	300,000,000	1.36	16.29

These limits are based on standard emission factors (AP-42, TANKS 3.1) using the maximum throughput and the respective vapor pressure of the materials to be stored. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. Emissions and operation of all equipment shall not exceed the following limits:

HAP Content (% of VOM)		HAP Emissions (Ton/Year)	
<u>Individual</u>	<u>Total</u>	<u>Individual</u>	<u>Total</u>
4.43%	6.36%	3.69	5.29

These limits are based on the HAP content from a USEPA document (Radian 8/10/93). Compliance with annual limits shall be determined from a running total of 12 months of data.

- 7a. Within 60 days of a written request from the Illinois EPA, the volatile organic material emissions of the loading rack with enclosed flare shall be measured during conditions which are representative of maximum emissions.
- b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, and 40 CFR 61, Appendix B, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Volatile Organic Material	USEPA Method 25, 25A if outlet VOM cont. < 50 ppmv as C Non CH ₄

- c. At least 60 days prior to the actual date of testing, a written test plan shall be submitted to the Compliance Section of the Division of Air Pollution Control for review. This plan shall describe the specific procedures for testing, including as a minimum:
 - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
 - ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit and any control equipment will be determined.
 - iii. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.

- iv. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods.
 - v. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
 - vi. Any proposed use of an alternative test method, with detailed justification.
 - vii. The format and content of the Source Test Report.
8. The Permittee shall equip Storage Tanks 1, 2, 4, 5, 6, 7, 8 and 9 with a fixed roof in combination with an internal floating roof meeting the following specifications:
- a. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage tank that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage tank is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.
 - b. Each internal floating roof shall be equipped with the following closure devices between the wall of the storage tank and the edge of the internal floating roof: Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage tank and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
 - c. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
 - d. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

- e. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.
 - f. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
 - g. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.
 - h. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.
 - i. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
9. The Permittee shall meet the following requirements for Storage Tanks 1, 2, 4, 5, 6, 7, 8 and 9. After installing the control equipment required to meet 40 CFR 60.112b(a)(1), (permanently affixed roof and internal floating roof), the Permittee shall:
- a. Visually inspect the internal floating roof, the primary seal, and the secondary seal, prior to filling the storage tank with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the Permittee shall repair the items before filling the storage tank.
 - b. Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage tank is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage tank with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 5 years.

- c. Notify the Illinois EPA in writing at least 30 days prior to the filling or refilling of each storage tank for which an inspection is required by the NSPS, to afford the Illinois EPA the opportunity to have an observer present. If the inspection required by the NSPS is not planned and the Permittee could not have known about the inspection 30 days in advance or refilling the tank, the Permittee shall notify the Illinois EPA at least 7 days prior to the refilling of the storage tank. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Illinois EPA at least 7 days prior to the refilling.
10. The Permittee shall keep records and furnish reports as required by 40 CFR 60.115b(a). After installing control equipment in accordance with 40 CFR 60.112b(a)(1) (fixed roof and internal floating roof), the Permittee shall meet the following requirements:
 - a. Furnish the Illinois EPA with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3).
 - b. Keep a record of each inspection performed as required by 40 CFR 60.113b (a)(1), (a)(3), and (a)(4). Each record shall identify the storage tank on which the inspection was performed and shall contain the date the tank was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
 - c. If any of the conditions described in 40 CFR 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR 60.113b(a)(2), a report shall be furnished to the Illinois EPA within 30 days of the inspection. Each report shall identify the storage tank, the nature of the defects, and the date the storage tank was emptied or the nature of and date the repair was made.
 - d. After each inspection required by 40 CFR 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR 60.113b(a)(3)(ii), a report shall be furnished to the Illinois EPA within 30 days of the inspection. The report shall identify the storage tank and the reason it did not meet the specifications of 40 CFR 60.112b(a)(1) or 40 CFR 60.113b(a)(3) and list each repair made.

- 11a. The Permittee shall keep copies of all records required by this permit for at least 3 years, except the records required by the NSPS. shall be kept for the life of the source.
 - b. The Permittee shall keep readily accessible records showing the dimensions and an analysis demonstrating the capacity, of each storage tank, as specified in 40 CFR 60.110b(a).
 - c. The Permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period of each storage tank.
 - d. The Permittee shall notify the Illinois EPA within 30 days, whenever the maximum true vapor pressure of the liquid, in any storage tank, has exceeded the respective allowable true vapor pressure values for each volume range, as specified in the NSPS.
12. Available data on the storage temperature shall be used to determine the maximum true vapor pressure as determined below:
- a. For tanks operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For tanks operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.
 - b. For crude oil or refined petroleum products the vapor pressure may be obtained by the following:
 - i. Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see 40 CFR 60.17), unless the Illinois EPA specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).
 - ii. The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

- c. For other liquids, the vapor pressure shall be:
 - i. Obtained from standard reference texts;
 - ii. Determined by ASTM Method D2879-83 (incorporated by reference—see 40 CFR 60.17);
 - iii. Measured by an appropriate method approved by the Illinois EPA; or
 - iv. Calculated by an appropriate method approved by the Illinois EPA.

- 13. On and after the date on which 40 CFR 60.8(a) requires a performance test to be completed, the Permittee shall comply with the following requirements for the loading rack:
 - a. Each loading rack shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading, and vent them to an enclosed flare.
 - b. The emissions to the atmosphere from the vapor collection system with enclosed flare, due to the loading of liquid product into gasoline tank trucks, are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded.
 - c. The vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.
 - d. Loading of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:
 - i. The Permittee shall obtain the vapor tightness documentation described in 40 CFR 60.505(b) for each gasoline tank truck that is to be loaded at the gasoline loading racks.
 - ii. The Permittee shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the gasoline loading racks.
 - iii. The Permittee shall cross-check each tank identification number obtained above with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.

- iv. The Permittee shall notify the gasoline tank truck owner or operator, of each non-vapor-tight gasoline tank truck loaded at the loading rack within 3 weeks after the loading has occurred.
 - v. The Permittee shall take steps assuring that the non-vapor-tight gasoline tank truck will not be reloaded at the loading rack until vapor tightness documentation for that tank is obtained.
- e. The Permittee shall act to assure that loading of gasoline tank trucks at the loading rack are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.
- f. The Permittee shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the gasoline loading racks. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.
- g. The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 kPa (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures that are specified in 40 CFR 60.503(d).
- h. No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 kPa (450 mm of water).
- i. Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded, and the source of the leak repaired within 15 calendar days after it is detected.
- 14a. In conducting the performance tests required in 40 CFR 60.8, the Permittee shall use as reference methods and procedures the test methods in 40 CFR 60, Appendix A, except as provided in 40 CFR 60.8(b). The three-run requirement of 40 CFR 60.8(f) does not apply to this performance test.

- b. Immediately before the performance test required to determine compliance with 40 CFR 60.502(b), (c), and (h), the Permittee shall use 40 CFR 60, Appendix A, Method 21 to monitor for leakage of vapor from all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The Permittee shall repair all leaks with readings of 10,000 ppm (as methane) or greater before conducting the performance test.
- c. The Permittee shall determine compliance with the standards in 40 CFR 60.502(b) and (c) as follows:
 - i. The performance test shall be 6 hours long during which at least 300,000 liters of gasoline is loaded. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded or the test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.
 - ii. If the vapor processing system is intermittent in operation, the performance test shall begin at a reference vapor holder level and shall end at the same reference point. The test shall include at least two startups and shutdowns of the vapor processor. If this does not occur under automatically controlled operations, the system shall be manually controlled.
 - iii. The emission rate (E) of total organic compounds shall be computed using the following equation:

$$E = K \sum_{i=1}^n (V_{esi} C_{ei}) / (L \times 10^6)$$

Where:

E = Emission rate of total organic compounds, mg/liter of gasoline loaded.

V_{esi} = Volume of air-vapor mixture exhausted at each interval "i", scm.

C_{ei} = Concentration of total organic compounds at each interval "i", ppm.

L = Total volume of gasoline loaded, liters.

n = Number of testing intervals.

i = Emission testing interval of 5 minutes.

K = Density of calibration gas, 1.83×10^6 for propane and 2.41×10^6 for butane, mg/scm.

- iv. The performance test shall be conducted in intervals of 5 minutes. For each interval "i", readings from each measurement shall be recorded, and the volume exhausted (V_{esi}) and the corresponding average total organic compounds concentration (C_{ei}) shall be determined. The sampling system response time shall be considered in determining the average total organic compounds concentration corresponding to the volume exhausted.
 - v. The following methods shall be used to determine the volume (V_{esi}) air-vapor mixture exhausted at each interval:
 - 1. 40 CFR 60, Appendix A, Method 2B shall be used for combustion vapor processing systems.
 - 2. 40 CFR 60, Appendix A, Method 2A shall be used for all other vapor processing systems.
 - vi. 40 CFR 60, Appendix A, Method 25A or 25B shall be used for determining the total organic compounds concentration (C_{ei}) at each interval. The calibration gas shall be either propane or butane. The Permittee may exclude the methane and ethane content in the exhaust vent by any method (e.g., 40 CFR 60, Appendix A, Method 18) approved by the Illinois EPA.
 - vii. To determine the volume (L) of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested, terminal records or readings from gasoline dispensing meters at each loading rack shall be used.
- d. The Permittee shall determine compliance with the standard in 40 CFR 60.502(h) as follows:
- i. A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ± 2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck.
 - ii. During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.

- 15a. The tank truck vapor tightness documentation required in 40 CFR 60.502(e)(1) shall be kept on file at the terminal in a permanent form available for inspection.

- b. The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by 40 CFR 60, Appendix A, Method 27. This documentation shall include, as a minimum, the following information:
 - i. Test title: Gasoline Delivery Tank Pressure Test-EPA Reference Method 27.
 - ii. Tank owner and address.
 - iii. Tank identification number.
 - iv. Testing location.
 - v. Date of test.
 - vi. Tester name and signature.
 - vii. Witnessing inspector, if any: name, signature, and affiliation.
 - viii. Test results: actual pressure change in 5 minutes, mm of water (average for 2 runs).

- c. A record of each monthly leak inspection as required under 40 CFR 60.502(j) shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:
 - i. Date of inspection.
 - ii. Findings (may indicate no leaks discovered; or location, nature, and severity of each leak).
 - iii. Leak determination method.
 - iv. Corrective actions (date each leak repaired; reasons for any repair interval in excess of 15 days).
 - v. Inspector name and signature.

- d. The Permittee shall keep documentation of all notifications required under 40 CFR 60.502(e)(4) on file at the terminal for at least 3 years.

- e. The Permittee shall keep records of all replacements or additions of components, performed on the loading rack's vapor collection system with flare for at least 3 years.
- 16. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
- 17. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 18. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
- 19. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

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20. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year:

a. Terminal throughput (gallons/year).

If you have any questions on this, please call John Blazis at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JPB:jar

cc: Illinois EPA, FOS, Region 2
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from bulk products terminal operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are well below the levels, e.g., 100 tons per year of VOM at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

1. Emissions and operation of equipment shall not exceed the following limits:

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2. Emissions and operation of all equipment shall not exceed the following limits:

<u>HAP Content (% of VOM)</u>		<u>HAP Emissions (Ton/Year)</u>	
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Based on the HAP content from a USEPA document (Radian 8/10.93).

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