

AIR EMISSION PERMIT NO. 04100006- 001

Williams Pipe Line Company

WILLIAMS PIPE LINE COMPANY - ALEXANDRIA

709 3rd Avenue West, Highway 82
Alexandria, Douglas County, Minnesota 56308

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date
Total Facility Operating Permit	6/15/96

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. 7007.0800, subp. 16, which are incorporated by reference. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: State ; Syn Min Part 70

Issue Date: December 12, 1997

Expiration:
All Title I Conditions do not expire.

Michael J. Sandusky
Acting Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

MMM:lao

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NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)282-5332

The rule governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Any requirements which have been determined not to apply are listed in Table A of this permit.

The permit shield, however does not apply to: Minn. R. ch. 7030 (Noise Pollution Control).

FACILITY DESCRIPTION:

Williams Pipe Line Company owns and operates a bulk terminal and pipe line transport station for gasoline and distillates in Alexandria, Minnesota. The stationary source includes thirty product storage tanks, a pump station, a tank truck loading rack with vapor controller, consisting of a vapor collection system and flare. The terminal receives and transports petroleum products to other terminals through an interstate pipeline distribution network. Petroleum products are also shipped by tank trucks to retailers and bulk stations. The terminal operates 24 hours per day, 365 days per year. Volatile Organic Compounds are the major source of air emissions from this facility.

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria

Permit Number: 04100006 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Operating and/or production limits will be placed on emission units based on operating conditions during compliance testing. Limits set as a result of a compliance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025.	Minn. R. 7017.2025
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Shutdowns: Notify the Commissioner at least 24 hours in advance of shutdown of any process or control equipment if the shutdown would cause an increase in the emission of air contaminants. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 1
Breakdowns: Notify the Commissioner immediately of a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of air contaminants. At the time of notification or as soon thereafter as possible, the permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Oral Notification of Deviations Endangering Human Health or the Environment: Within 24 hours of discovery, orally notify the Commissioner of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7007.0800, subp. 6(A)
Written Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7007.0800, subp. 6(A)
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria

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Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H)	Minn. R. 7007.1400, subp. 1(H)
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007. 0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not federally enforceable.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16	Minn. R. 7007.0800, subp. 16
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria

Permit Number: 04100006 - 001

Subject Item: EU 001 Liquid Petroleum Products Truck Loading Rack**Associated Items:** CE 001 Flaring

SV 001

What to do	Why to do it
EMISSION LIMITS	hdr
Total Organic Compounds: less than 20 milligrams/liter of gasoline loaded. Compliance shall be determined in accordance with 40 CFR Section 60.503(c)	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; 40 CFR Section 70.2; and 40 CFR Section 63.2. 40 CFR Section 60.502(b), Minn. R. 7011.1550
OTHER LIMITS AND REQUIREMENTS	hdr
Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.	40 CFR Section 60.502(d), Minn. R. 7011.1550
Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline trucks using the following procedures. The permittee shall: 1. Obtain the vapor-tightness documentation described in 40 CFR Section 60.505(b) for each gasoline tank truck which is to be loaded at the facility. 2. Require the tank identification number to be recorded as each gasoline tank truck is loaded at the facility. 3. Cross-check each tank identification number with the file of tank vapor-tightness documentation within 2 weeks after the tank is loaded. 4. Notify the owner or operator of each nonvapor-tight gasoline tank truck loaded at the facility within 3 weeks after the loading has occurred. 5. Take steps assuring that the nonvapor-tight gasoline tank trucks will not be reloaded at the facility until vapor-tightness documentation for that tank is obtained. 6. Alternate procedures may be used upon application to, and approval by, the Commissioner.	40 CFR Section 60.502(e), Minn. R. 7011.1550
The Permittee shall act to assure that loadings of gasoline tank trucks at the facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.	40 CFR Section 60.502(f), Minn. R. 7011.1550
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 affected facility. This includes training drivers in the hookup procedures and posting visible signs at the affected loading racks.	40 CFR Section 60.502(g), Minn. R. 7011.1550
The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR Section 503(d).	40 CFR Section 60.502(h), Minn. R. 7011.1550
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 pascals (450 mm of water).	40 CFR Section 60.502(i), Minn. R. 7011.1550
Inspect: 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 requirement, detection methods incorporating sight, sound or smell are acceptable.	40 CFR Section 60.502(j), Minn. R. 7011.1550
Recordkeeping and repair: Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.	40 CFR Section 60.502(j), Minn. R. 7011.1550
A pressure measurement device 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.	40 CFR Section 60.503(d)(1), Minn. R. 7011.1550
The tank truck vapor-tightness documentation shall be kept on file at the terminal in a permanent form available for inspection.	40 CFR Section 60.505(a), Minn. R. 7011.1550

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria

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<p>The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:</p> <ol style="list-style-type: none"> 1) Test Title: Gasoline Delivery Tank Pressure Test-EPA Reference Method 27. 2) Tank owner name and address. 3) Tank identification number. 4) Testing location. 5) Date of test. 6) Tester name and signature 7) Witnessing inspector, if any: Name, signature, and affiliation. 8) Test Results: Actual pressure change in 5 minutes, mm of water (average for 2 runs). 	40 CFR Section 60.505(b), Minn. R. 7011.1550
<p>A record of each monthly leak inspection shall be kept on file at the terminal for at least 5 years and shall include, at a minimum:</p> <ol style="list-style-type: none"> 1. Date of inspection; 2. Findings (no leaks, or nature and severity of leaks); 3. Leak determination method; 4. Corrective action (date each leak repaired, reasons for repair interval greater than 15 days); and 5. Inspector name and signature. 	40 CFR Section 60.505(c), Minn. R. 7011.1550, and Minn. R. 7007.0800, subp. 6(A)
<p>The Permittee shall keep documentation of all notifications required under Section 60.502(e)(4) on file at the terminal for at least 5 years.</p>	40 CFR Section 60.505(d), Minn. R. 7011.1550, and Minn. R. 7007.0800, subp. 6(A)
<p>Flare shall be operated at all times when loading rack is in use.</p>	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; 40 CFR Section 70.2; and 40 CFR Section 63.2.
<p>The flare shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using an ultraviolet sensor or any equivalent device to detect the presence of a flame.</p>	Title I Condition: Monitoring of limit used to avoid classification as a major source under 40 CFR Section 52.21; 40 CFR Section 70.2; and 40 CFR Section 63.2.
<p>NSPS General Requirements: Comply with all New Source Performance Standards General Requirements.</p>	40 CFR pt. 60, subp. A
<p>NSPS General Requirements: At all times including periods of startup, shutdown, and malfunction, Williams Pipe Line Co. shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on all available information including, but not limited to monitoring results, opacity observations, review of operating and maintenance procedures and inspections.</p>	40 CFR Section 60.11(d)
<p>PERFORMANCE TESTING REQUIREMENTS</p>	hdr
<p>Performance Test: due before end of each 60 months following Permit Issuance in accordance with 40 CFR 60.503.</p>	Minn. R. 7017.2020, subp. 1
<p>Performance Test Pre-test Meeting: due 7 days before Performance Test</p>	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria

Permit Number: 04100006 - 001

Subject Item: TK 001 Gasoline 8006619 Tank no. 4010

What to do	Why to do it
Equip tank as described in 40 CFR Section 60.112a(a)(2).	40 CFR Section 60.112a(a)(2), Minn. R. 7011.1520(B)
Maintain a record of the petroleum liquid stored, the period of storage and the maximum true vapor pressure of that liquid during the respective storage period.	40 CFR Section 60.115a(a), Minn. R. 7011.1520(B)
Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517.	40 CFR Section 60.115a(b), Minn. R. 7011.1520(B)
At all times that the tank is operated, operate the floating roof and maintain seals in good condition. Keep operating and maintenance records on the floating roof.	Minn. R. 7007.0800, subp. 14
Change/repair seals and fittings as needed. Align components to ensure proper seal gaps. Keep records of maintenance, calibration and daily readings.	Minn. R. 7007.0800, subp. 14
NSPS General Requirements: Comply with all New Source Performance Standards General Requirements.	40 CFR pt. 60, subp. A
NSPS General Requirements: At all times including periods of startup, shutdown, and malfunction, Williams Pipe Line Co. shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on all available information including, but not limited to monitoring results, opacity observations, review of operating and maintenance procedures and inspections.	40 CFR Section 60.11(d)
If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mmHg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system or their equivalents.	Minn. R. 7011.1505, subp. 3(C)(1)
If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent.	Minn. R. 7011.1505, subp. 3(C)(2)
Recordkeeping: maintain the records described in Minn. R. 7011.1510, subp. 1(A) and Minn. R. 7011.1510, subp. 1(B) on site.	Minn. R. 7007.0800, subp. 14
Monitoring: maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the date on which the storage vessel is empty. Determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if the petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg (9.1 psia).	Minn. R. 7011.1510, subp. 1
Monitoring: The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days.	Minn. R. 7011.1510, subp. 2
Monitoring: The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. The true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the agency or the commissioner when typical vapor pressure is used.	Minn. R. 7011.1510, subp. 3

TABLE B: SUBMITTALS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria
Permit Number: 04100006 - 001

Table B lists the submittals you must send to the Commissioner. Table B is divided into two sections, for source-specific submittal requirements and for submittals required of all permittees. Source-specific submittals are further organized as either one-time only or recurrent requirements. You may also be subject to additional reporting requirements contained in the compliance schedule located in Table C of this permit. All submittals must be postmarked or received by the date specified in the table, and certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Submittals which must be provided on standardized forms approved by the Commissioner are noted in Tables B and C.

Send any application for a permit or permit amendment to: Permit Information Coordinator, Permit Section, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4914. Also send the Permit Information Coordinator notices of: accumulated insignificant activities, installation of control equipment, replacement of an emissions unit, and changes that contravene a permit term.

Send all other submittals to: Compliance Tracking Coordinator, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria

Permit Number: 04100006 - 001

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup Submit the name and number of each unit and the actual date of initial startup of each unit.	Total Facility
Notification of the Anticipated Date of Initial Startup	due 30 days before Anticipated Date of Initial Startup Submit the name and number of each unit and the actual date of initial startup of each unit.	Total Facility
Notification of the Date Construction Began	due 30 days after Start Of Construction Submit the name and number of each unit and the anticipated date of initial startup of each unit.	Total Facility
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement Submit the name and number of each unit and the date the unit was removed and/or dismantled.	Total Facility
Performance Test Notification (written)	due 30 days before Performance Test	EU001
Performance Test Plan	due 30 days before Performance Test	EU001
Performance Test Report - Microfiche Copy	due 105 days after Performance Test	EU001
Performance Test Report	due 45 days after Performance Test	EU001

TABLE B: RECURRENT SUBMITTALS

12/12/97

Facility Name: Williams Pipe Line Co - Alexandria

Permit Number: 04100006 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance . The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner. The report covers all deviations experienced during the calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 04100006-001
For
WILLIAMS PIPE LINE COMPANY
AQD File No. 1858D

This Technical Support Document (TSD) is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 5171)
Williams Pipe Line Company P.O. Box 3448 Tulsa, Oklahoma 74101 (918)588-3486	Williams Pipe Line Company -Alexandria Terminal 709 3rd Avenue West Highway 82 Alexandria, Minnesota 56308

1.2. Description of the facility

Williams Pipe Line Company owns and operates a bulk terminal and pipe line transport station for gasoline and distillates in Alexandria, Minnesota. The stationary source includes thirty product storage tanks, a pump station, a tank truck loading rack with vapor controller, consisting of a vapor collection system and flare. The terminal receives and transports petroleum products to other terminals through an interstate pipeline distribution network. Petroleum products are also shipped by tank trucks to retailers and bulk stations. The terminal operates 24 hours per day, 365 days per year. Volatile Organic Compounds (VOC) are the major source of air emissions from this facility.

1.3 Description of any changes allowed with this permit issuance

This permit allows the operation of the existing loading rack.

1.4 Description of all amendments issued since the issuance of the last Total Facility permit and to be included in the Part 70 Permit.

Permit Number and Issuance Date	Action Authorized
1858D-92-I/O-1 8/19/92	Installation and operation of a three spot bottom loading rack and vapor collection/destruction system.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit (PTE) Summary:

EU #	Emission Unit Description	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	All HAPs tpy
EU001	Loading Rack	0	0	0	10.5	26.3	52.6	0	1.8
EU002	Soil Remediation Unit	0	0	0	0	0	1.8	0	0.1
TK001 to TK030	Tanks	0	0	0	0	0	33.9	0	1.8
FS001	Fugitives	0	0	0	0	0	0.7	0	0.04
	Insignificant Activities	0	0	0	0	0	5.0	0	5.0

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	All HAPs tpy
Total Facility Limited Potential Emissions	0	0	0	10.5	26.3	94.0	0	8.7
Total Facility Actual Emissions				4.0	9.9	38.5	0	1.8

Table 2. Facility(TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)		VOC	
NAAR (list pollutant)	NA		
Part 70 Permit Program (list pollutant)		VOC	

* Refers to potential emissions that are less than those specified as major by 40 CFR 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

Regulatory Overview of Facility

EU, GRP, or SV #	Applicable Regulations	Comments:
EU001	40 CFR pt. 60, subp. XX; Minn. R. 7011.1550	Standards of Performance for Bulk Gasoline Terminals
TK001	40 CFR pt. 60, subp. Ka; Minn. R. 7011.1520	Standards of Performance for Storage Vessels for Which Construction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

3. Technical Information

Emission Calculation Discussion:

The PTE was calculated based on the maximum pumping capacity of the loading rack, 630,720,000 gallons per year.

Tank Emission Calculations

The tank emission calculations were performed using Tanks 2.0. The inputs to this model were checked for consistency with the permit application.

Loading Rack Emission Calculations

AP-42 Chapter 5.2 Transportation and Marketing of Petroleum Liquids

1. Loading losses are the primary source of evaporative emissions. Emissions for loading petroleum liquid can be estimated using the following expressions:

$L_L = 12.46 \text{ (SPM/T)}$ where L_L = loading loss in pounds per 1000 gallons of liquid loaded
 S = saturation factor + 0.6 for submerged loading with dedicated normal service
 P = true vapor pressure of liquid loaded (psia)
 M = molecular weight of vapors
 T = temperature of bulk liquid loaded, ° R

Example for RVP 10 Gasoline Loading:

$$L_L = 3.774 \frac{lb}{1000 \text{ gal}} = 12.46 \cdot \frac{0.6 \cdot 3.8607 \cdot 66}{(460 + 44.72)}$$

Maximum of capacity of incoming pipeline = 630,720,000 gallons per year.

Loading losses without vapor collection/destruction is 1,190 tons of VOCs per year.

$$1190.2 \frac{\text{tons}}{\text{yr}} = 3.774 \frac{\text{lb}}{1,000 \text{ gal}} \cdot 630720 \frac{1,000 \text{ gal}}{\text{yr}} \cdot \frac{1 \text{ ton}}{2000 \text{ lb}}$$

Federal regulations 40 CFR pt. 60, subp. XX requires the loading rack to emit no more than 35 mg of VOC/liter of gasoline loaded. This is equivalent to 0.00029 lb. of VOC/gal.

$$0.00029 \frac{\text{lb}}{\text{gal}} = \frac{35 \text{ mg}}{\text{liter}} \cdot \frac{3.7854 \text{ liter}}{\text{gal}} \cdot \frac{1 \text{ gram}}{1000 \text{ mg}} \cdot \frac{1 \text{ kg}}{1000 \text{ gram}} \cdot \frac{2.2046 \text{ lb}}{\text{kg}}$$

At a maximum loading rate of 630,720,000 gallons per year, the loading rack has the PTE 92.11 tons/yr.

$$92.11 \frac{\text{ton}}{\text{yr}} = \frac{0.00029 \text{ lb}}{\text{gal}} \cdot \frac{630,720,000 \text{ gal}}{\text{yr}} \cdot \frac{1 \text{ ton}}{2000 \text{ lb}}$$

However, the vapor collection/destruction system is capable of complying with a lower emission limit and a further limit is required to avoid regulation under 40 CFR pt. 70. Therefore, Williams Pipe Line Company has accepted a limit of 20 mg/liter. Under this limitation, the potential to the loading rack to emit VOCs is 52.6 tons/yr.

$$0.00017 \frac{\text{lb}}{\text{gal}} = \frac{20 \text{ mg}}{\text{liter}} \cdot \frac{3.7854 \text{ liter}}{\text{gal}} \cdot \frac{1 \text{ gram}}{1000 \text{ mg}} \cdot \frac{1 \text{ kg}}{1000 \text{ gram}} \cdot \frac{2.2046 \text{ lb}}{\text{kg}}$$

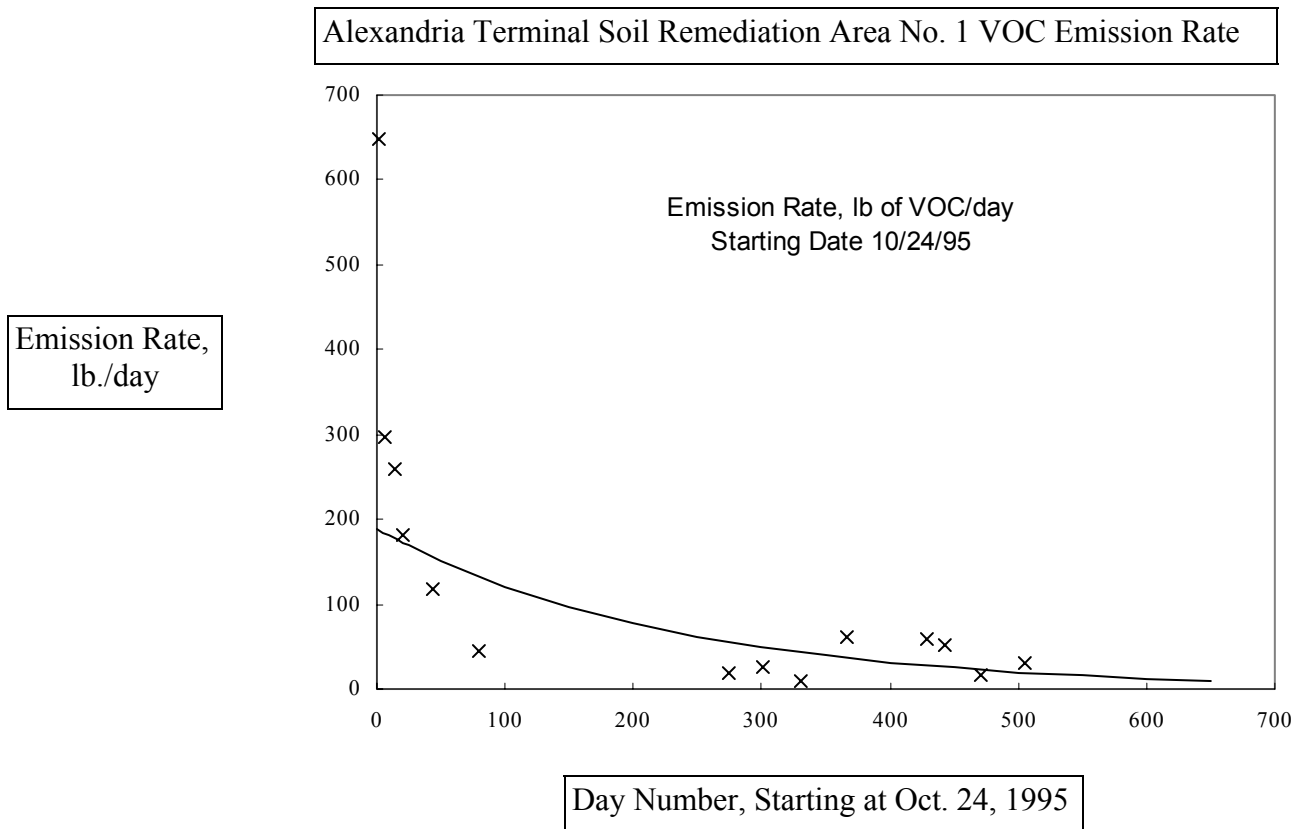
$$52.6 \frac{\text{ton}}{\text{yr}} = \frac{0.00017 \text{ lb}}{\text{gal}} \cdot \frac{630,720,000 \text{ gal}}{\text{yr}} \cdot \frac{1 \text{ ton}}{2000 \text{ lb}}$$

Soil Remediation Area No. 1 Emission Calculation

VOC removal rate data for each of the three soil remediation areas at the Williams Pipe Line Company - Alexandria Terminal facility is reported to MPCA Hazardous Waste Division. From this data, the air emissions from each of these areas was estimated. Data from 1996 and 1997 was plotted and analyzed. An exponential decay curve fit the data and was used to estimate the current average daily emission rate of VOCs and HAPs. From this analysis, remediation area No. 1 is currently emitting at an average daily rate of 10.07 pounds.

Estimated Annual Emission Rates

Pollutant	Annual Emission Rate tons/year
VOCs	1.84
Xylene	0.05
Ethyl Benzene	0.005
Toluene	0.024
Benzene	0.012



Insignificant Activities Emissions Calculation

The estimated actual emissions from all insignificant activities is five tons per year. More than four of the five tons of VOC emissions from insignificant activities is from the additive tanks. Based on the conservative assumptions on which this estimate is based, this estimate is believed to significantly over-estimate the emissions from the additive tanks.

Jet naphtha was used to represent the additives since these additives are derived from naphtha and have lower vapor pressures than naphtha. The additive tanks emission calculations were performed using Tanks 3.0. The PTE calculations were not completed for each tank. The PTE of the largest tank was calculated and this emission rate was assumed for each of the smaller tanks. There are a total of eight additive tanks. Since the largest tank has the PTE 1,112 lb./yr. of VOCs, and each of the other additive tanks has a lower potential to emit VOCs, each of the additive tanks is defined as an insignificant activity under Minn. R. 7007.1300, subp. 3 (I)(2).

The remaining ton of VOC emissions from insignificant activities comes from soil remediation area Nos. 2 and 3. Based on the assumption that the potential and actual emissions of these units are equal, and the estimated actual emissions of remediation area No. 2 and remediation area No. 3 are less than one ton per year, each of these is defined as an insignificant activity under Minn. R. 7007.1300, subp. 3 (I)(2). Remediation area No. 3 has emitted at an annual rate of less than 1 ton/yr. for the year from June 1996 through June 1997. The estimated emissions from remediation area No. 2 were calculated in the same manner as described above for remediation area No. 1. Based on this method, remediation area No. 2 is emitting VOC emissions at an average daily rate of 0.22 lb. (0.04 tons/yr.).

Hazardous Air Pollutant (HAP) Emissions Calculations

HAP emission calculations are based on the HAP content of gasoline vapors (Gasoline Distribution Industry (Stage I) - Background Information for Proposed Standards EPA-453/R-94-002a).

The HAP content of normal gasoline by weight percent is:

Hexane	1.6
Benzene	0.9
Toluene	1.3
2,2,4 Trimethylpentane	0.8
Xylenes	0.5
Ethyl Benzene	0.1

The loading rack PTE hexane is 0.84 tons per year.

$$0.84 \frac{\text{tons}}{\text{yr}} = \frac{1.6 \text{ tons of hexane}}{100 \text{ tons of VOC}} \cdot \frac{52.6 \text{ tons of VOC}}{\text{yr}}$$

The HAP destruction efficiency of the vapor collection/destruction system is assumed to be equivalent to the VOC destruction efficiency. This is a reasonable assumption (Control Technologies for HAP, U.S. Environmental Protection Agency /625/6-91/014, June 1991).

4. Conclusion

Based on the information provided by the Williams Pipe Line Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 04100006-001 (AQD File No. 1858D), and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

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Attachment: CD-01 Forms
Others specified in section 3