

AIR EMISSION PERMIT NO. 05300844- 003
Total Facility Operating Permit - Reissuance

IS ISSUED TO

The Toro Company

THE TORO COMPANY – LYNDAL FACILITY

8111 Lyndale Avenue South
Bloomington, Hennepin County, Minnesota 55420

The emission units, control equipment and emission stacks at the stationary source authorized in this permit reissuance are as described in the Permit Applications Table.

This permit reissuance supersedes Air Emission Permit No. 05300844-002, and 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. 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 are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 and as such as are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Permit Type: Federal; Pt 70/Limits to Avoid NSR

Operating Permit Issue Date: June 2, 2011

Expiration Date: June 2, 2016

All Title I Conditions do not expire.

Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for Paul Aasen
Commissioner
Minnesota Pollution Control Agency

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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	651-296-6300
Outside Metro Area	1-800-657-3864
TTY	651-282-5332

The rules 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. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

FACILITY DESCRIPTION:

The stationary source is Toro's research and development facility. The facility does not manufacture or fabricate any products for market. The emission sources at the facility include engine testing, an emergency generator, spray coating (insignificant activity), and fuel combustion for heating purposes (insignificant activities).

Engine testing activities include endurance, development, safety, and stress testing, conducted in test cells. The test cells are rooms used to conduct testing on engines used in Toro's products. Testing can take place in any number of the installed test cells and different tests can be carried out within the same test cell at the same time. Testing can also take place at individual workstations within the experimental test area.

The coating operations include a paint booth used to paint prototype parts and a stress coat paint booth used to coat parts with a stress sensitive paint prior to stress testing. The paint booths each have a spray gun, and spray cans are also used. These are insignificant activities required to be listed according to Minn. R. 7007.1300, subp. 3 (I). Both units are listed in Appendix B of the permit.

There are several space heaters and air make-up units fueled by natural gas. These activities are considered insignificant under Minn. R. 7007.1300, subp. 4. All units are listed in Appendix B of the permit.

Pollution control equipment at this facility includes a bank of mat or panel filters (CE001) on the paint booth. It also includes a catalytic oxidizer (CE002) the facility has installed as pollution control equipment for the engine test cells. The facility has requested that use of the catalytic oxidizer is voluntary; applicable emission limits can be met without the use of the oxidizer. Operating requirements are included in the permit.

Toro uses only gasoline or diesel fuel in its engines and only diesel fuel in the emergency generator. They have also accepted emission limits to avoid New Source Review and to remain minor for HAPs.

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-1 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

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
OPERATIONAL REQUIREMENTS	hdr
The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080
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
The Permittee shall at all times properly operate and maintain the control equipment to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subps. 14 and 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
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
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 enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
PERFORMANCE TESTING	hdr
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
Performance Test Notifications and Submittals: Performance Tests are due as outlined in Table A of the permit. See Table B for additional testing requirements. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2018; Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-2**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.	Minn. R. 7017.2025, subp. 3
MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: The Permittee shall calibrate all required monitoring equipment at least once every 12 months (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)
RECORDKEEPING	hdr
Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, 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 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)
Recordkeeping: 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)
If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
REPORTING/SUBMITTALS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-3**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

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: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
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 - 7007.1500
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). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due on or before April 1 of each calendar year, to be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 - 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 - 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-4**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Subject Item: GP 001 Engine Test Cells**Associated Items:** CE 002 Catalytic Afterburner w/Heat Exchanger

EU 001 Test Cell N4

EU 002 Test Cell N6

EU 003 Test Cell E3

EU 004 Test Cell E5

EU 005 Test Cell E7

EU 006 Test Cell E9

EU 007 Test Cell E13

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EU 018 Test Cell B4

EU 019 Test Cell E6

EU 020 Test Cell A5

EU 021 Test Cell A3

EU 022 Test Cell A1

EU 023 Test Cell A2

EU 024 Test Cell A4

EU 025 Test Cell A6

EU 026 Test Cell E4

EU 027 Test Cell E2

EU 028 Test Cell N2

EU 029 Test Cell W1

EU 030 Test Cell W3

EU 033 Product Development Lab

EU 034 Test Cell W7

EU 035 Test Cell W9

EU 036 Test Cell W11

EU 037 Test Cell C1

EU 038 Test Cell E15

EU 039 Test Cell S4

EU 040 Test Cell W16

EU 041 Test Cell W14

EU 042 Test Cell W12

EU 043 Test Cell N1

EU 045 Test Cell E1

EU 046 Semi-anechoic Sound Chamber - Engine Testing

EU 047 Electrical Wiring Bay - Engine Testing

EU 048 Commercial Service Shop - Engine Testing

EU 049 Consumer Service Shop - Engine Testing

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-5 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Associated Items: EU 050 Technician Work Area - Engine Testing

EU 051 Validation Room - Engine Testing

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
Carbon Monoxide: less than or equal to 230.0 tons/year using 12-month Rolling Sum to be calculated as described later in this permit. This limit applies to the combined CO emissions of all Emission Units (EU) listed as Associated Items for GP001. The limit excludes the CO emissions from combustion of natural gas in CE002.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 210.0 tons/year using 12-month Rolling Sum to be calculated as described later in this permit. This limit applies to the combined NOX emissions of all Emission Units (EU) listed as Associated Items for GP001. The limit excludes the NOX emissions from combustion of natural gas in CE002.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
HAP-Single: less than or equal to 9.0 tons/year using 12-month Rolling Sum to be calculated as described later in this permit. This limit applies to the combined emissions of any single HAP emitted from all Emission Units (EU) listed as Associated Items for GP001. The limit excludes the HAP emissions from combustion of natural gas in CE002.	Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and Minn. R. 7007.0200, subp 2.A(1)
HAPs - Total: less than or equal to 23.5 tons/year using 12-month Rolling Sum to be calculated as described later in this permit. This limit applies to the combined total of all HAP emissions of all Emission Units (EU) listed as Associated Items for GP001. The limit excludes the HAP emissions from combustion of natural gas in CE002.	Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and Minn. R. 7007.0200, subp 2.A(1)
Opacity: less than or equal to 20.0 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, Subp. 1
Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input	Minn. R. 7011.2300, Subp. 2
Toro will combust only gasoline or diesel fuel.	Title I Condition: To avoid classification as a major source or modification under 40 CFR 52.21 and 40 CFR 63
CONTROL REQUIREMENTS (see also Subject Item CE002)	hdr
Use of the catalytic oxidizer (CE002) is voluntary; it is not required to be operated at all times. When it is operated and credit for actual emissions as specified in this permit or for emission inventory and fee purposes is sought, such use is considered to be a tool for maintaining the stationary source's status as a non-major source under 40 CFR Section 52.21, and the Permittee must comply with the monitoring and recordkeeping requirements described under Subject Item CE002.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000
MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator may (but is not required to) use a CO CEMS to measure CO emissions from the controlled test cells. If a CO CEMS is used, additional CEMS requirements are located under Subject Item MR001.	Minn. R. 7017.1006
Daily Recordkeeping: On each day of operation, the Permittee shall record the following information for all test cells used (data may be collected and recorded for test cells individually or collectively, as long as the Permittee has the data required to complete the calculations as described in this permit): -- gallons of gasoline used when the emissions were vented to CE002 -- gallons of gasoline used when the emissions were not vented to CE002 -- gallons of diesel fuel used when the emissions were vented to CE002 -- gallons of diesel fuel used when the emissions were not vented to CE002	Title I Condition: Limit to avoid classification as a major source or modification under 40 CFR 52.21 and 40 CFR 63

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-6**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

<p>Monthly Recordkeeping: By the 15th day of each month, the Permittee shall calculate and record the following information for each test cell:</p> <p>-- gallons of gasoline used during the previous month and previous 12 months when the emissions were vented to CE002 (CUGn)</p> <p>-- gallons of gasoline used during the previous month and previous 12 months when the emissions were not vented to CE002 (UUGn)</p> <p>-- total gallons of gasoline used during the previous month and previous 12 months (TUGn)</p> <p>-- gallons of diesel fuel used during the previous month and previous 12 months when the emissions were vented to CE002 (CUDn)</p> <p>-- gallons of diesel fuel used during the previous month and previous 12 months when the emissions were not vented to CE002 (UUDn)</p> <p>-- total gallons of diesel fuel used during the previous month and previous 12 months (TUDn)</p>	<p>Title I Condition: Limit to avoid classification as a major source or modification under 40 CFR 52.21 and 40 CFR 63</p>
<p>Monthly Calculations: By the 15th day of each month, the Permittee shall calculate and record the following information:</p> <p>-- Total CO emissions for the previous 12 months, in tons per year, using Equation 1 or Equation 2 of Appendix C</p> <p>-- Total NOX emissions for the previous 12 months, in tons per year, using Equation 3 of Appendix C</p> <p>-- Total emissions of each individual HAP for the previous 12 months, in tons, using Equation 4 of Appendix C</p> <p>-- Total HAP emissions for the previous 12 months, in tons, using Equation 5 of Appendix C</p>	<p>Title I Condition: Limit to avoid classification as a major source or modification under 40 CFR 52.21 and 40 CFR 63</p>
<p>The Permittee may replace or move listed emission units in GP001, provided CO, NOX, Single HAP, and Total HAP emissions are tracked and calculated directly from fuel usage and MPCA-approved emission factors. The replacement emission units must have the same or less hourly PTE than the replaced emission unit. All changes must meet the requirements listed under GP001.</p> <p>If a replacement triggers an applicable requirement that is not contained in this permit, the change must go through the appropriate procedure in Minn. R. ch. 7007.</p>	<p>Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-7 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Subject Item: EU 044 Emergency Generator**Associated Items:** SV 019 Generator

What to do	Why to do it
Opacity: less than or equal to 20.0 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input . PTE based on equipment capacity and allowed fuels is 0.29 lb/MMBtu.	Minn. R. 7011.2300, subp. 2
Fuel Restriction: restricted to using diesel fuel	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.40 percent by weight	Minn. R. 7007.0800, subp. 2
Fuel Supplier Certification: obtain and maintain a fuel supplier certification for each shipment of diesel fuel, certifying that the sulfur content does not exceed 0.40% by weight.	Minn. R. 7007.0800, subps. 4 and 5
The following conditions (those required by 40 CFR Part 63) become effective on May 3, 2013.	40 CFR Section 63.6595(a)(1); Minn. R. 7011.8150
Change oil and filter every 500 hours of operation or annually, whichever comes first.	40 CFR Section 63.6603(a) and Table 2D to Subpart ZZZZ of Part 63; Minn. R. 7011.8150
Inspect air cleaner every 1000 hours of operation or annually, whichever comes first.	40 CFR Section 63.6603(a) and Table 2D to Subpart ZZZZ of Part 63; Minn. R. 7011.8150
Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	40 CFR Section 63.6603(a) and Table 2D to Subpart ZZZZ of Part 63; Minn. R. 7011.8150
At all times you must operate and maintain the engine in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	40 CFR Section 63.6605(a) and (b); Minn. R. 7011.8150
Operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.	40 CFR Section 63.6625(e)(3); Minn. R. 7011.8150
Install a non-resettable hour meter if one is not already installed.	40 CFR Section 63.6625(f); Minn. R. 7011.8150
You must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.	40 CFR Section 63.6625(h); Minn. R. 7011.8150
The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement. The oil analysis must be performed at the same frequency specified for changing the oil. The analysis program must at a minimum analyze the following 3 parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is great than 0.5. (continued below)	40 CFR Section 63.6625(i); Minn. R. 7011.8150
(continued from above) If none of the condemning limits are exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.	40 CFR Section 63.6625(i); Minn. R. 7011.8150

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-8**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

<p>You must operate the emergency generator according to the requirements (i)-(iii). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in (i)-(iii), is prohibited. If you do not operate the engine according to the requirements in (i)-(iii), the engine will not be considered an emergency engine and will need to meet all requirements for non-emergency engines;</p> <p>(i) There is no time limit on the use of the emergency engine in emergency situations.</p>	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150
<p>(ii) You may operate the engine for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. You may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if you maintain records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.</p>	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150
<p>(iii) You may operate the engine up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income by supplying power to the electric grid or otherwise supplying power as part of a financial arrangement with another entity; except that you may operate the engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level.</p>	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150
<p>(iii), continued from above</p> <p>The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.</p>	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150
<p>You must keep records of the maintenance conducted on the engine in order to demonstrate that you operated and maintained the engine and after-treatment control device (if any) according to your maintenance plan.</p>	40 CFR Section 63.6655(e)(2); Minn. R. 7011.8150
<p>You must keep records of the hours of operation of the engine that are recorded through the non-resettable hour meter. You must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for demand response operation, you must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.</p>	40 CFR Section 63.6655(f)(2); Minn. R. 7011.8150
<p>(a) Your records must be in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1).</p> <p>(b) As specified in 40 CFR Section 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>(c) You must keep each record readily accessible in hard copy or electronic format for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR Section 63.10(b)(1).</p>	40 CFR Section 63.6660; 40 CFR Section 63.10(b)(1); Minn. R. 7011.8150

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-9** 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Subject Item: EU 052 Catalytic Incinerator**Associated Items:** SV 033 Engine Test Cell Catalytic Incinerator Exhaust

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-10**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Subject Item: CE 002 Catalytic Afterburner w/Heat Exchanger

Associated Items:

EU 001 Test Cell N4
EU 002 Test Cell N6
EU 003 Test Cell E3
EU 004 Test Cell E5
EU 005 Test Cell E7
EU 006 Test Cell E9
EU 007 Test Cell E13
EU 010 Tilt Table
EU 011 Test Cell C4
EU 012 Test Cell C2
EU 013 Test Cell E8
EU 014 Test Cell B7
EU 015 Test Cell B5
EU 016 Test Cell B3
EU 017 Test Cell B2
EU 018 Test Cell B4
EU 019 Test Cell E6
EU 020 Test Cell A5
EU 021 Test Cell A3
EU 022 Test Cell A1
EU 023 Test Cell A2
EU 024 Test Cell A4
EU 025 Test Cell A6
EU 026 Test Cell E4
EU 027 Test Cell E2
EU 028 Test Cell N2
EU 029 Test Cell W1
EU 030 Test Cell W3
EU 034 Test Cell W7
EU 035 Test Cell W9
EU 036 Test Cell W11
EU 037 Test Cell C1
EU 038 Test Cell E15
EU 039 Test Cell S4
EU 040 Test Cell W16
EU 041 Test Cell W14
EU 042 Test Cell W12
EU 043 Test Cell N1
EU 045 Test Cell E1
GP 001 Engine Test Cells
MR 001 CO
MR 002 O2

What to do**Why to do it**

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-11 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

The catalytic oxidizer is voluntary and is not required to be operated at all times. The Permittee shall document periods of operation and non-operation of the control equipment. When it is operated and credit for actual emissions as specified in this permit or for emission inventory and fee purposes is sought, the following monitoring and recordkeeping requirements apply.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000
The Permittee shall operate and maintain control equipment such that it achieves an overall control efficiency for Carbon Monoxide: greater than or equal to 94.0 percent	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0070
The Permittee shall operate and maintain control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to 94.0 percent	Minn. R. 7007.0800, subps. 2 and 14
The Permittee shall operate and maintain the catalytic oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Temperature: greater than or equal to 580.0 degrees F using 3-hour Rolling Average at the catalytic oxidizer inlet unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. If the 3-hour rolling average temperature is below the minimum temperature limit, the VOC and CO emitted during that time shall be considered uncontrolled until the average temperature is above the minimum temperature limit. This shall be reported as a deviation. If a 1-hour average temperature drops below the minimum temperature limit, this is defined as an excursion under 40 CFR Section 64.6(c)(2).	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
If individual instantaneous temperature measurements fall below the minimum temperature, 1-hour average temperatures shall be identified. If a 1-hour average temperature drops below the minimum temperature limit, this is defined as an excursion under 40 CFR Section 64.6(c)(2).	40 CFR Section 64.3; Minn. R. 7017.0200
Temperature Monitoring: The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the catalytic oxidizer inlet temperature. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average catalytic oxidizer inlet temperature. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Section 64.3(b)(4)(ii); Minn. R. 7017.0200
Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written or electronic record of the daily verifications.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Section 64.3(b); Minn. R. 7017.0200
Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	40 CFR Section 64.7(b); Minn. R. 7017.0200
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the catalytic oxidizer inlet.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Section 64.9(b); Minn. R. 7017.0200
Annual Calibration: The Permittee shall calibrate the temperature monitor at least once every 12 months and shall maintain a written or electronic record of the calibration and any action resulting from the calibration.	40 CFR Section 64.3; Minn. R. 7017.0200
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written or electronic record of the inspection and any corrective actions taken resulting from the inspection.	40 CFR Section 64.3; Minn. R. 7017.0200
Annual Inspections: Annually inspect the burner portion of the afterburner, per manufacturer recommendations.	40 CFR Section 64.3; Minn. R. 7017.0200
Catalyst Bed Reactivity: Test catalyst bed reactivity every 24 months, or according to manufacturer recommendations. Replace bed when reactivity falls below manufacturer specifications.	40 CFR Section 64.3; Minn. R. 7017.0200
For periods when the catalytic oxidizer is operated above the minimum inlet temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (94.0%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-12**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Corrective Actions: If the temperature is below the minimum specified by this permit or if the catalytic oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the catalytic oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.	40 CFR Section 64.7(d); Minn. R. 7017.0200
Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing minimum catalytic oxidizer inlet temperature, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes.	40 CFR Section 64.7(e); Minn. R. 7017.0200
As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents.	40 CFR Section 64.9(a)(2); Minn. R. 7017.0200
The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b); Minn. R. 7017.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-13 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Subject Item: MR 001 CO**Associated Items:** CE 002 Catalytic Afterburner w/Heat Exchanger

CM 001 Carbon Monoxide CEMS

What to do	Why to do it
Use of a CO CEMS is voluntary and is not required. When it is operated and credit for actual emissions as specified in this permit or for emission inventory and fee purposes is sought, monitoring and recordkeeping requirements below apply.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000
Cylinder Gas Audit: due before end of each calendar half-year following CEM Certification Test, except that a CGA is not required during any calendar half year in which a RATA was performed. The initial CGA must be performed within 180 days following certification of the CEMS. The CGAs shall be conducted at least three months apart but no more than eight months apart. A CGA shall be conducted according to the procedures in 40 CFR pt. 60, Appendix F, section 5.1.2. If the monitored emission unit was operated for less than 24 hours during the calendar half year, a CGA is not required for that calendar half year.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1170, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. A RATA is not required in any calendar year if a RATA conducted in the previous year demonstrated a relative accuracy value of less than 15 percent or if the associated emissions unit operated less than 48 hours during the calendar year. If the exception is used, the next RATA shall be conducted during the first half of the following calendar year. RATAs shall be conducted at least 3 months apart according to 40 CFR pt. 60, Appendix F, section 5.1.1.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1170, subp. 5
Installation Notification: due 60 days before installing the continuous emissions monitoring system. The notification shall include plans and drawings of the system.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1040, subp. 1
CEM Certification Test: due 90 days after Excess Emissions/Downtime Reports (EER's) are first required for the CEMS. The first EER is due 30 days after the end of the calendar quarter following permit issuance. Follow the Performance Specifications listed in 40 CFR pt. 60, Appendix B.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test CEMS Certification Test Report: due 45 days after CEMS Certification Test CEMS Certification Test Report - Microfiche Copy: due 105 days after CEMS Certification Test The Notification, Test Plan, and Test Report may be submitted in alternate format as allowed by Minn. R. 7017.1120, subp. 2	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1060, subp. 1-3; and Minn. R. 7017.1080, subp. 1-4
Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1090
Monitoring Data: All data points collected by a CEMS shall be used to calculate individual hourly emission averages unless another applicable requirement requires more frequent averaging. In order for an hour of data to be considered, it must contain the following minimum number of data points: A. four data points, equally spaced, if the emission unit operated during the entire hour; B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance; C. one data point if the emission unit operated for 15 minutes or less during the hour.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1160, subp. 1 and 2
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR Part 60, Appendix F, section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1170, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-14**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Requirement: CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily according to the procedures listed in Minn. R. 7017.1170, subp. 3 (B) and 40 CFR Section 60.13(d)(1) for each pollutant concentration, each diluent monitor, and for each monitor range. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. If no span value is specified in the applicable requirement or in a compliance document, the Permittee shall use a span value equivalent to 1.5 times the emission limit. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS. Follow the procedures in 40 CFR pt. 60, Appendix F.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1170, subp. 3
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1130

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-15**

06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

Subject Item: MR 002 O2**Associated Items:** CE 002 Catalytic Afterburner w/Heat Exchanger

What to do	Why to do it
Use of a CO CEMS (MR001) is voluntary and is not required. When it is operated and credit for actual emissions as specified in this permit or for emission inventory and fee purposes is sought, the following monitoring and recordkeeping requirements for MR002 apply.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000
Cylinder Gas Audit: due before end of each calendar half-year following CEM Certification Test, except that a CGA is not required during any calendar half year in which a RATA was performed. The initial CGA must be performed within 180 days following certification of the CEMS. The CGAs shall be conducted at least three months apart but no more than eight months apart. A CGA shall be conducted according to the procedures in 40 CFR pt. 60, Appendix F, section 5.1.2. If the monitored emission unit was operated for less than 24 hours during the calendar half year, a CGA is not required for that calendar half year.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1170, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. A RATA is not required in any calendar year if a RATA conducted in the previous year demonstrated a relative accuracy value of less than 15 percent or if the associated emissions unit operated less than 48 hours during the calendar year. If the exception is used, the next RATA shall be conducted during the first half of the following calendar year. RATAs shall be conducted at least 3 months apart according to 40 CFR pt. 60, Appendix F, section 5.1.1.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7017.1170, subp. 5

TABLE B: SUBMITTALS**B-1** 06/08/11

Facility Name: The Toro Co - Lyndale
Permit Number: 05300844 - 003

Also, where required by an applicable rule or permit condition, send to the Permit Document Coordinator notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

Send any application for a permit or permit amendment to:

AQ Permit Document Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Relative Accuracy Test Audit (RATA) Notification	due 30 days before CEMS Relative Accuracy Test Audit (RATA) This is only required if the Permittee elects to use a CO CEMS. Use of a CO CEMS is optional on the part of the Permittee.	MR001, MR002

TABLE B: RECURRENT SUBMITTALS**B-3** 06/08/11

Facility Name: The Toro Co - Lyndale

Permit Number: 05300844 - 003

What to send	When to send	Portion of Facility Affected
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar quarter following Cylinder Gas Audit. The CGA Audit is only required if the Permittee elects to use a CO CEMS. Use of a CO CEMS is optional on the part of the Permittee.	MR001, MR002
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following permit issuance . EER is only required if CEMS are installed. Submit Deviations Reporting Form DRF-1 as amended. The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions. The EER must be submitted even if there were no excess emissions, downtime or bypasses during the quarter.	MR001
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA) that was conducted in said quarter. This is only required if the Permittee elects to use a CO CEMS. Use of a CO CEMS is optional on the part of the Permittee.	MR001, MR002
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. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Permittee shall submit this on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX B: Insignificant Activities
Facility Name: The Toro Company - Lyndale
Permit Number: 05300844-003

Insignificant Activities and Applicable Requirements

The table below lists the insignificant activities that are currently at the facility and their associated general applicable requirements.

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
3(E)	Storage Tanks	Minn. R. 7011.1505, subp. 2(B)/1505, subp. 3(B) 40 CFR Section 63, subpart CCCCCC, as detailed in Appendix D of this permit
	1. gasoline storage tanks: with a combined total tankage capacity of not more than 10,000 gallons <ul style="list-style-type: none"> Two underground gasoline storage tanks with a combined storage capacity of 3,700 gallons. 	
3(G)	Emissions from a laboratory, as defined in the subpart. <ul style="list-style-type: none"> A "fabrication room," within the electrical laboratory, has two (2) exhaust hoods used in assembling small electrical components An exhaust hood in Toro's laboratory supply room, exhausts small amounts of fumes given off during occasional cutting of rubber hoses. 	Minn. R. 7011.0510/0515 + Minn. R. 7011.0610 + Minn. R. 7011.0710/0715
3(H)	Miscellaneous	Minn. R. 7011.0710/0715
	3. Brazing, welding, or soldering equipment <ul style="list-style-type: none"> Welding bay in the Product Development Laboratory 	
3(I)	Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than: <ol style="list-style-type: none"> 4,000 lbs/year of carbon monoxide; and 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone, and 1,000 tons/year of carbon dioxide equivalent (CO₂e) <ul style="list-style-type: none"> Two paint booths and two solvent degreasers. <ul style="list-style-type: none"> Paint Booth 1 PTE: 139 lb/yr PM; 1826 lb/yr VOC Paint Booth 2 PTE: 294 lb/yr PM; 760 lb/yr VOC Degreaser 1 PTE: 1213 lb/yr VOC Degreaser 2 PTE: 311 lb/yr VOC 	Minn. R. 7011.0710/0715
4	Individual emissions units at a stationary source, each of which has: <ol style="list-style-type: none"> Potential emissions of 5.7 pounds per hour or actual emissions of two tons per year of carbon monoxide; Potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs; and For hazardous air pollutants, emissions units with: <ol style="list-style-type: none"> potential emissions of 25 percent or less of the hazardous air pollutant thresholds listed in subp. 5; or combined HAP actual emissions of one ton per year unless the emissions unit emits one or more of the HAPs listed in this 	

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
	<p>subpart.</p> <p>D. potential emissions up to 10,000 tons/year or actual emissions up to 1,000 tons/year of CO₂e.</p> <ul style="list-style-type: none"> Three printing presses with actual VOC emissions less than 2000 lb/yr and potential VOC emissions less than 2.28 lb/hr. <ul style="list-style-type: none"> DI Press: Actual VOC 490 lb/yr; actual xylene 4.1 lb/yr AB Dick Press: Potential VOC 0.85 lb/hr; potential xylene 0.007 lb/hr Hamada Press: Potential VOC 0.33 lb/hr; 0 HAP Total of 92 air makeup units and 11 space heaters. Total BTU input to all is 33 MMBtu/hr. Largest unit is 2.2 MMBtu/hr; potential NO_x from that unit is 0.94 tpy (<1 tpy), potential CO₂e from that unit is 1127 tpy 	<p>Minn. R. 7011.0710/0715</p> <p>Minn. R. 7011.0610</p>

APPENDIX C: GP001 Compliance Calculations

Facility Name: The Toro Company - Lyndale

Permit Number: 05300844-003

The following calculations are referenced under Subject Item GP001 of Table A.

Use **Equation 1** to calculate CO emissions from GP001 units only when the CO CEMS is used to measure CO emissions from GP001:

$$\text{Total CO} = \text{CO}_{\text{CEMS}} + [(\text{EF}_{\text{GCO}} \times \sum \text{UU}_{\text{Gn}}) + (\text{EF}_{\text{DCO}} \times \sum \text{UU}_{\text{Dn}})] \times 0.005 \quad (\text{Equation 1})$$

Use **Equation 2** to calculate CO emissions from GP001 units only when the CO CEMS is not used to measure CO emissions from GP001:

$$\text{Total CO} = [\text{EF}_{\text{GCO}} \times (\sum \text{UU}_{\text{Gn}} + (1-0.94) \times \sum \text{CU}_{\text{Gn}}) + \text{EF}_{\text{DCO}} \times (\sum \text{UU}_{\text{Dn}} + (1-0.94) \times \sum \text{CU}_{\text{Dn}})] \times 0.005 \quad (\text{Equation 2})$$

Use **Equation 3** to calculate NOX emissions from GP001 units:

$$\text{Total NO}_x = [\text{EF}_{\text{GNO}_x} \times (\sum \text{UU}_{\text{Gn}} + \sum \text{CU}_{\text{Gn}}) + \text{EF}_{\text{DNO}_x} \times (\sum \text{UU}_{\text{Dn}} + \sum \text{CU}_{\text{Dn}})] \times 0.005 \quad (\text{Equation 3})$$

Use **Equation 4** to calculate emissions of each individual HAP emitted by GP001 units:

$$\text{HAP}_i = [\text{EF}_{\text{Gi}} \times \sum \text{TU}_{\text{Gn}} + \text{EF}_{\text{Di}} \times \sum \text{TU}_{\text{Dn}}] \times 0.005 \quad (\text{Equation 4})$$

Use **Equation 5** to calculate Total HAP emissions from GP001 units:

$$\text{Total HAP} = \sum \text{HAP}_i \quad (\text{Equation 5})$$

Where:

UU_{Gn} = the amount of gasoline combusted while Test Cell “n” operated uncontrolled during the previous 12 months (gallons)

CU_{Gn} = the amount of gasoline combusted while Test Cell “n” was controlled by CE002 during the previous 12 months (gallons)

TU_{Gn} = the total amount of gasoline combusted in Test Cell “n” during the previous 12 months (gallons)

UU_{Dn} = the amount of diesel fuel combusted while Test Cell “n” operated uncontrolled during the previous 12 months (gallons)

CU_{Dn} = the amount of diesel fuel combusted while Test Cell “n” was controlled by CE002 during the previous 12 months (gallons)

TU_{Dn} = the total amount of diesel fuel combusted in Test Cell “n” during the previous 12 months (gallons)

Total CO = the total CO emissions during the previous 12 months (tons)

Total NO_x = the total NO_x emissions during the previous 12 months (tons)

HAP_i = the total emissions of each individual HAP emitted during the previous 12 months (tons). This includes the following individual HAPs, at a minimum:

- Acetaldehyde
- Acrolein
- Benzene
- 1,3-Butadiene
- Chromium (including chromium compounds)
- Ethylbenzene
- Formaldehyde

- Hexane
- Manganese (including manganese compounds)
- Mercury (including mercury compounds)
- Methyl tert butyl ether
- Naphthalene
- Nickel (including nickel compounds)
- Polyaromatic hydrocarbons (including naphthalene)
- Propionaldehyde
- Styrene
- Toluene
- Xylenes

Total HAP = the total of all HAP emissions during the previous 12 months (tons)

EF_{GCO} = the MPCA-approved emission factor for CO emissions from gasoline combustion (lb/gal). At the time of permit issuance, the approved factor is 6.6 lb/gal ¹

EF_{GNOX} = the MPCA-approved emission factor for NO_x emissions from gasoline combustion (lb/gal). At the time of permit issuance, the approved factor is 0.11 lb/gal ²

EF_{Gi} = The MPCA-approved emission factor for individual HAP “i” from gasoline combustion (lb/gal). At the time of permit issuance, the approved factors are as follows:

- Acetaldehyde – 5.6×10^{-4} lb/gal ³
- Acrolein – 1.2×10^{-6} lb/gal ³
- Benzene – 8.2×10^{-3} lb/gal ³
- 1,3-Butadiene – 2.1×10^{-3} lb/gal ³
- Chromium (including chromium compounds) – 5.2×10^{-9} lb/gal ³
- Ethylbenzene – 3.7×10^{-3} lb/gal ³
- Formaldehyde – 2.0×10^{-3} lb/gal ³
- Hexane – 2.2×10^{-3} lb/gal ³
- Manganese (including manganese compounds) – 8.9×10^{-9} lb/gal ³
- Mercury (including mercury compounds) – 1.5×10^{-9} lb/gal ³
- Methyl tert butyl ether – 3.1×10^{-4} lb/gal ³
- Nickel (including nickel compounds) – 5.2×10^{-9} lb/gal ³
- Polyaromatic hydrocarbons (including naphthalene) – 2.8×10^{-6} lb/gal ³
- Propionaldehyde – 2.7×10^{-4} lb/gal ³
- Styrene – 3.6×10^{-4} lb/gal ³
- Toluene – 1.6×10^{-2} lb/gal ³
- Xylenes – 1.7×10^{-2} lb/gal ³

EF_{DCO} = the MPCA-approved emission factor for CO emissions from diesel fuel combustion (lb/gal). At the time of permit issuance, the approved factor is 0.074 lb/gal ⁴

EF_{DNOX} = the MPCA-approved emission factor for NO_x emissions from diesel fuel combustion (lb/gal). At the time of permit issuance, the approved factor is 0.34 lb/gal ³

¹ Emission factor is from vendor data, in units of lb/hp-hr, converted to lb/gallon using 12,683 Btu/hp-hr (provided by applicant from test data) and 130,000 Btu/gallon for gasoline.

² Emission factor is from AP-42 Table 3.3-1, in units of lb/hp-hr, converted to lb/gallon using 12,683 Btu/hp-hr (provided by applicant from test data) and 130,000 Btu/gallon for gasoline.

³ Emission factor is derived in units of lb/hp-hr by multiplying the percent organic or metallic HAP (provided by applicant from document titled “Documentation for the 1996 Base Year National Toxics Inventory for Nonroad Vehicle and Equipment Mobile Sources,” Eastern Research Group, June 2, 2000) by the total organic compound or PM emission factor from AP-42 Table 3.3-1. Converted to lb/gallon using 12,683 Btu/hp-hr (provided by applicant from test data) and 130,000 Btu/gallon for gasoline.

⁴ Emission factor is from AP-42 Table 3.3-1, in units of lb/hp-hr, converted to lb/gallon using 12,683 Btu/hp-hr (provided by applicant from test data) and 140,000 Btu/gallon for diesel fuel.

EF_{Di} = The MPCA-approved emission factor for individual HAP “i” from diesel fuel combustion (lb/gal).⁵ At the time of permit issuance, the approved factors are as follows:

- Acetaldehyde – 1.1×10^{-4} lb/gal⁵
- Acrolein – 1.3×10^{-5} lb/gal⁴
- Benzene – 1.3×10^{-4} lb/gal⁴
- 1,3-Butadiene – 5.5×10^{-6} lb/gal⁴
- Formaldehyde – 1.7×10^{-4} lb/gal⁴
- Naphthalene – 1.2×10^{-5} lb/gal⁴
- Toluene – 5.7×10^{-5} lb/gal⁴
- Xylenes – 4.0×10^{-5} lb/gal⁴

⁵ Emission factor is from AP-42 Section 3.3, in units of lb/MMBtu, converted to lb/gallon using 140,000 Btu/gallon for diesel fuel.

APPENDIX D: 40 CFR 63, Subpart CCCCCC Requirements for Gasoline Dispensing Facilities

Facility Name: The Toro Company - Lyndale

Permit Number: 05300844-003

Per 40 CFR Section 63.11112, the facility is an existing affected source because it is not reconstructed and commenced construction prior to November 9, 2006.

What To Do	Why To Do It
Upon request of the Administrator, demonstrate that the monthly throughput of the gasoline storage tanks is less than 10,000 gallons. Recordkeeping to document monthly throughput must begin on January 24, 2011. Records must be kept for a period of 5 years.	40 CFR Section 63.11111(e)
The emission sources to which these requirements apply are gasoline storage tanks and associated components in vapor or liquid gasoline service that meet the criteria in 40 CFR Section 63.11111. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at the Gasoline Dispensing Facility are covered emission sources. The equipment used for the refueling of motor vehicles is not covered.	40 CFR Section 63.11112(a)
Comply with the following applicable requirements in this subpart no later than January 24, 2014.	40 CFR Section 63.11113(f)(1)
You must, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	40 CFR Section 63.11115(a)
You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: <ul style="list-style-type: none">(1) Minimize gasoline spills;(2) Clean up spills as expeditiously as practicable;(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use.	40 CFR Section 11116(a)
You are not required to submit notifications or reports, but must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.	40 CFR Section 63.11116(b)
Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with 40 CFR Section 63.11116(a)	40 CFR Section 63.11116(d)

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 05300844-003

This Technical Support Document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

1. General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 3524)
The Toro Company 8111 Lyndale Avenue South Bloomington, MN 55420	The Toro Company – Lyndale 8111 Lyndale Avenue South Bloomington, Hennepin County
Contact: Thomas Hawkinson Corporate Environmental, Health, and Safety Manager Phone: 952-887-8080	

1.2 Facility Description

The stationary source is Toro's research and development facility. The facility does not manufacture or fabricate any products for market. The emission sources at the facility include engine testing, an emergency generator, spray coating (insignificant activity), and fuel combustion for heating purposes (insignificant activities).

Engine testing activities include endurance, development, safety, and stress testing, conducted in test cells. The test cells are rooms used to conduct testing on engines used in Toro's products. Testing can take place in any number of the installed test cells and different tests can be carried out within the same test cell at the same time. Testing can also take place at individual workstations within the experimental test area. The primary pollutants emitted from the facility are carbon monoxide (CO); volatile organic compounds (VOC); nitrogen oxides (NO_x); sulfur dioxide (SO₂); particulate matter (PM), including particulate matter less than 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}); hazardous air pollutants (HAP); and greenhouse gases.

The coating operations include a paint booth used to paint prototype parts and a stress coat paint booth used to coat parts with a stress sensitive paint prior to stress testing. The paint booths each have a spray gun, and spray cans are also used. These are insignificant activities required to be listed according to Minn. R. 7007.1300 subp. 3 (I). Both units are listed in Appendix B of the permit, and are discussed further in Section 3.3 of this Technical Support Document (TSD).

There are several space heaters and air make-up units fueled by natural gas. These activities are considered insignificant under Minn. R. 7007.1300 subp. 4. All units are listed in Appendix B of the permit, and are discussed further in Section 3.3 of this Technical Support Document (TSD).

Pollution control equipment at this facility includes a bank of mat or panel filters (CE001) on the paint booth. It also includes a catalytic oxidizer (CE002) the facility has installed as pollution control equipment for the engine test cells. The facility has requested that use of the catalytic oxidizer is voluntary; applicable emission limits can be met without the use of the oxidizer. Operating requirements are included in the permit.

Toro uses only gasoline or diesel fuel in its engines and only diesel fuel in the emergency generator. They have also accepted emission limits to avoid New Source Review and to remain minor for HAPs.

1.3 Description of any Changes Allowed with this Permit Issuance

No facility changes are authorized through this permit action. The following changes to the format and content of the permit were made through this permit action:

The permit previously seemed to allow either the use of CO CEMS or traditional parameter monitoring for ensuring proper operation of the catalytic oxidizer (CE002). However, the CAM plan prepared by the Permittee and provided as an attachment to the TSD for the previous permit does not discuss the use of CO CEMS as CAM. The permit was changed to require the parameter monitoring as proposed in the original CAM plan at all times that CE002 is operating (operation of CE002 is optional). The CO CEMS is still an option, and can be used for demonstrating compliance with the CO emission limit, but it is not CAM according to the CAM plan.

The compliance calculations for the emission limits in GP001 were moved to Appendix C. This allows the equations to be written more clearly, and allows space for explanation.

The VOC limit previously listed in GP001 as a Title I limit was removed from GP001. The emission rate listed as a limit was actually uncontrolled potential emissions. It is not necessary to list PTE as a permit limit. Continuing to limit CO to 230 tpy and limiting NO_x to 210 tpy is sufficient for the facility remain a non-major source under New Source Review. The permit also included requirements to calculate SO₂, PM, PM₁₀, and PM_{2.5} emissions on a monthly basis. Since these pollutants are not limited in the permit, the recordkeeping requirements were removed.

1.4 Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit

Table 2. Permit Actions

Permit Number and Issuance Date	Action Authorized
05300884-001, 9/18/2000	Original Part 70 operating permit
05300884-002, 5/20/2010	Major Amendment establishing additional emission limits intended to maintain the source's non-major status under New Source Review.

1.5 Facility Emissions:

Table 3. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	PM _{2.5} tpy	CO ₂ e tpy	Single HAP tpy	Total HAPs tpy
Total Facility Limited Potential Emissions (Note 1)	15.2	15.2	14.15	215	231.5	146.5	15.2	14260	9.0	23.5
Total Facility Limited Potential Emissions (Note 2)	16.5	16.5	14.23	229	232.3	173.8	16.5	31159	9.1	23.8
Total Facility Actual Emissions (2009) (Note 1)	0.27	0.27	0.24	4.27	112.0	5.52	Not reported in emission inventory			

Note 1: Excluding insignificant activities

Note 2: Including quantifiable insignificant activities

Table 4. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		CO, NO _x	PM, PM ₁₀ , PM _{2.5} , SO ₂ , VOC, CO _{2e}
Part 70 Permit Program	NO _x , CO, VOC	HAP	
Part 63 NESHAP		X	

2. Regulatory and/or Statutory Basis

New Source Review

The facility is a non-major source under New Source Review regulations, because of federally enforceable emission limitations contained in the permit. No changes are authorized by this permit.

Part 70 Permit Program

The facility is a major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

There are no New Source Performance Standards applicable to the operations at this facility.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP emissions such that it is an area source under 40 CFR Part 63. Thus, no major source NESHAPs apply.

The emergency generator is an existing emergency generator located at an area source of HAPs under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

The gasoline storage tanks and associated delivery components are subject to 40 CFR 63, Subpart CCCCCC, National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities. The equipment is existing, with a monthly throughput less than 10,000 gallons, so the only requirements are recordkeeping of the throughput, and proper operation to minimize emissions. Because this is an area source standard not delegated to Minnesota, and the emission sources to which the standard applies are insignificant activities, the requirements of the standard are not incorporated in the main body of the permit, but are included as Appendix D. The MPCA does not enforce Subpart CCCCCC, but it is an applicable requirement for the facility.

The two paint booths listed as insignificant activities in Appendix B of the permit are not subject to any NESHAP. The paint booths are exempt from 40 CFR 63, Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, under the R&D exclusion described in 40 CFR §§ 63.11169(d)(4) and 63.11180. 40 CFR 63, Subpart XXXXXX, National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories does not apply, because Toro is not included in any of the nine subject source categories.

Compliance Assurance Monitoring (CAM)

CAM requirements were added to the permit in the previous permit action, when CE002 was added to the permit. No further actions related to CAM are required at this time. The CAM Plan approved through permit action 05300844-002 is included in Attachment 3 to this document.

Environmental Review & AERA

No modifications are authorized, therefore environmental review and air emission risk analysis are not required.

Minnesota State Rules

Portions of the facility are subject to Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines.

Table 5. Regulatory Overview of Facility

Level	Applicable Regulations	Comments:
GP 001	Title I Conditions to avoid major source status under 40 CFR § 52.21	New Source Review Prevention of Significant Deterioration Limit on CO emissions from engine testing operations, to avoid major source classification under 40 CFR § 52.21.
	Title I Conditions to avoid major source status under 40 CFR Part 63	National Emission Standards for Hazardous Air Pollutants. Limits set on HAPs emissions from engine testing operations to avoid major source classification under 40 CFR Part 63.
	Minn. R. 7011.2300	Minnesota Standards of Performance for Stationary Internal Combustion Engines.
EU044	Minn. R. 7011.2300	Minnesota Standards of Performance for Stationary Internal Combustion Engines.
	40 CFR 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
EU052 (fuel combustion in CE002)	Minn. R. 7011.0610	Minnesota Standards of Performance for Direct Heating Equipment

3. Technical Information

3.1 Calculations of Potential to Emit

Emission factors are taken from AP-42, Chapter 3.3 (Gasoline and Diesel Industrial Engines, Table 3.3-1) The MPCA approved CO emission factor for gasoline of 0.64 lb/hp-hr was provided by the Permittee and is taken from vendor testing data submitted to EPA.

Attachment 1 to this TSD contains a summary of the facility's potential to emit (PTE), as well as detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

3.2 Periodic Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;

- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 6 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 6. Periodic Monitoring

Level	Requirement (basis)	Additional Monitoring	Discussion
GP001 (Test Cells)	$\text{CO} \leq 230.0 \text{ tpy}$ $\text{NO}_x \leq 210 \text{ tpy}$ $\text{Single HAP} \leq 9.0 \text{ tpy}$ $\text{Total HAP} \leq 23.5 \text{ tpy}$ (Title I limits to avoid NSR)	Daily Recordkeeping (test cells in use, fuel quantity, whether or not CE002 is in use) Monthly calculations (actual emissions) Proper O&M of CE002 (when operated)	On each day of operation, record the test cells used, the amount of fuel combusted in cells controlled by CE002, the amount of fuel combusted in cells not controlled by CE002. Each month, calculate emissions using equations provided in Appendix C of the permit. Credit is given for 94% control of CO and VOC. This is the control efficiency allowed under Minn. R. 7011.0070, therefore no demonstration of control efficiency is required at this time. Permittee also has the option to install and operate a CO CEMS. If a CO CEMS is used, it must be operated per the permit requirements, and the recorded emissions used in the monthly emission calculations.
	$\text{SO}_2 \leq 0.50 \text{ lbs/MMBtu heat input}$ $\text{Opacity: } \leq 20.0 \%$ (Minn. R. 7011.2300)	None	Potential SO_2 emissions of engines fired by gasoline or diesel fuel are approximately 0.084 lb/MMBtu and 0.3 lb/MMBtu, respectively, based on published emission factors (AP-42). Noncompliance is unlikely.
EU044 (Emergency Generator)	$\text{SO}_2 \leq 0.50 \text{ lbs/MMBtu heat input}$ $\text{Opacity: } \leq 20.0 \%$ (Minn. R. 7011.2300)	None	Potential SO_2 emissions of diesel-fired generator are approximately 0.3 lb/MMBtu, based on published emission factors (AP-42). Noncompliance is unlikely.
CE002 (Catalytic Oxidizer)	VOC: Control Efficiency of 94.0% CO: Control Efficiency of 94.0% Temperature limit $\geq 580.0^\circ\text{F}$ at the oxidizer inlet	Temperature and catalyst reactivity monitoring, O & M, inspections	CE002 is CAM. Monitoring based on the Minnesota Performance Standard for Control Equipment and attached CAM Plan is adequate to have a reasonable assurance of compliance.

Level	Requirement (basis)	Additional Monitoring	Discussion
EU052 (CE002 fuel combustion)	PM: variable Opacity: 20% with excursions (Minn. R. 7011.0610)	None	Fuel is limited by design to natural gas. Noncompliance with the limits is unlikely

3.3 Insignificant Activities

The Toro Company has several operations which are classified as insignificant activities. These are listed in Appendix B to the permit. The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities. See Attachment 1 of this TSD for PTE information for the insignificant activities.

Table 7. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	Small, intermittent, operations that typically do not have particulate emissions. It is highly unlikely that they could violate the applicable requirement.
Storage Tanks	Design requirements, PM dependent on air flow (Minn. R. 7011.1505; 7011.0710.0715) 40 CFR 63, Subpart CCCCCC	No particulate emissions are expected from the storage tanks. The applicable NESHAP is an area source NESHAP, not delegated to Minnesota. The facility's requirements for compliance with this standard are listed in Appendix D of the permit.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Individual units with actual emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity \leq 20% (with exceptions) (Minn. R. 7011.0710/0715)	These are 2 paint booths and 2 degreasers fitting in this category. All of these units are operated and vented inside a building, so testing for PM or opacity is not feasible. Significant particulate matter emissions are not expected.

Insignificant Activity	General Applicable Emission limit	Discussion
Individual units meeting the potential or actual emission requirements of Minn. R. 7007.1300, subp. 4	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0610 and 7011.0710/0715)	3 printing presses, 11 space heaters, 92 small air makeup units. Presses are operated and vented such that testing is not feasible. Combustion units are natural gas fired, making violation of the applicable requirements unlikely.

3.4 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be tracked (e.g., limits, submittals, etc.), should be in Table A or B. The main reason is that the appendices are word processing sections and are not part of the tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

3.5 Comments Received

Public Notice Period: April 15, 2011 – May 16, 2011

EPA 45-day Review Period: April 15, 2011 – May 31, 2011

Comments were not received from the public during the public notice period. Comments were not received from EPA during the 45-day review period. No changes were made to the permit after public notice.

4. Permit Fee Assessment

This permit action is the reissuance of an individual Part 70; therefore, no application fees apply under Minn. R. 7002.0016, subp. 1. There are no applicable additional points.

5. Conclusion

Based on the information provided by The Toro Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 05300844-003 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:

- Toni Volkmeier (permit writer/engineer)
- Brent Rohne (enforcement)
- Curt Stock (stack testing)
- Jared LaFave (peer reviewer)
- Laurie O'Brien (administrative support)

AQ File No. 1271A; DQ 404

Attachments:

1. PTE Summary and Calculation Spreadsheets
2. Facility Description and CD-01 Forms
3. CAM Plan (carried forward from previous permit)