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| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | RP-04  Registration permit estimation  Air Quality Permit Program  Doc Type: Permit Application |

Instructions on page 3.

This form can be used by an owner or operator to make estimates needed to determine qualification under Options B, C or D, if relevant historical operating data is not available. Only use this form if you have less than 12 months of actual operating data and must therefore estimate actual annual emissions.

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| **1a)** AQ Facility ID number: | | |  | | 1b) Agency Interest ID number: | | | | |  | |
| **2)** Facility name: |  | | | | | | | | | | |
| **3)** This form is being used to calculate estimates for (check one): | | | | | | | | | | | |
| Option B – Complete only Item 4 | | | | Option C – Complete only Item 5. | | | | Option D – Complete only Item 6. | | | |
| **4) Estimation method for Option B** | | | | | | | | | | | |
| No operating data available – Complete 4a only. | | | | | | | | | | | |
| Some operating data available (less than 12 months’ data) – Complete 4b only. | | | | | | | | | | | |
| **4a)** Estimated annual quantity of Volatile Organic Compound/ Chemical (VOC) containing material to be used: | | | | | | |  | | gallons/year (must be <2000) | | |
| **4b)** For facilities that have some relevant historical operating data, but for fewer than 12 months | | | | | | | | | | | |
| **4b.1)** Average monthly gallons of VOC-containing material for the months operated = | | | | | | | | |  | | gallons/month |
| **4b.2)** Estimated monthly quantity of VOC-containing material during normal operation = | | | | | | | | |  | | gallons/month |
| **4b.3)** Higher of the previous 2 numbers (4b.1 and 4b.2) = | | | | | | | | |  | | gallons/month |
| **4b.4)** Estimated annual quantity of VOC-containing material = | | | | | |  | | | gallons/year (must be < 2000) | | |
| Transfer this number (from Item 4b.4) to Item 15 of Form RP-01 and indicate there whether the estimate is based on estimated purchase or use of VOC-containing materials. | | | | | | | | | | | |
| **5) Estimation method for Option C** | | | | | | | | | | | |
| **5a)** Boilers | | No operating data available – Complete 5a.1 and 5a.5 only. | | | | | | | | | |
|  | | Some operating data available (less than 12 months’ data) – Complete 5a.2 through 5a.5. | | | | | | | | | |

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|  | **5a.1)** | **5a.2)** | **5a.3)** | **5a.4)** |  | **5a.5)** |
|  | Estimated annual quantity to be used | Estimated monthly quantity during normal operation | Average actual monthly quantity | Higher of the numbers entered for 5a.2 and 5a.3 | **x 12** | Estimated fuel quantity |
| anthracite coal (tons) |  |  |  |  | X 12 |  |
| bituminous coal (tons) |  |  |  |  | X 12 |  |
| sub bituminous coal (tons) |  |  |  |  | X 12 |  |
| lignite A coal (tons) |  |  |  |  | X 12 |  |
| petroleum coke (tons) |  |  |  |  | X 12 |  |
| untreated domestic wood and bark (tons) |  |  |  |  | X 12 |  |
| kerosene (gallons) |  |  |  |  | X 12 |  |
| No. 1 and 2 distillate (gallons) |  |  |  |  | X 12 |  |
| No. 4 Distillate (gallons) |  |  |  |  | X 12 |  |
| No. 5 and 6 residual (gallons) |  |  |  |  | X 12 |  |
| liquefied petroleum gas (gal.) |  |  |  |  | X 12 |  |
| natural gas (cubic feet) |  |  |  |  | X 12 |  |

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| **5b)** Engines - Estimating fuel quantities – Do not include fuel used in engines for which you are using the hours of operation option in item 5c. | |
|  | No operating data available – Complete 5b.1 and 5b.5 only. |
|  | Some operating data available (less than 12 months’ data) – Complete 5b.2 through 5b.5. |

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|  | **5b.1)** | **5b.2)** | **5b.3)** | **5b.4)** |  | **5b.5)** |
|  | Estimated annual quantity to be used | Estimated monthly quantity during normal operation | Average actual monthly quantity | Higher of the numbers entered for 5a.2 and 5a.3 | **x 12** | Estimated fuel quantity |
| No. 1 and No. 2 distillate and kerosene (gallons) |  |  |  |  | X 12 |  |
| Liquefied petroleum gas (LPG) (gallons |  |  |  |  | X 12 |  |
| Natural gas (cubic feet) |  |  |  |  | X 12 |  |

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| **5c)** Engines – Estimating hours of operation. For additional engines, copy this table. Do not include the hours of operation of engines for which you are using the option of estimating fuel usage in item 5b. | |
|  | No operating data available – Complete 5c.1 and 5c.5 only. |
|  | Some operating data available (less than 12 months’ data) – Complete 5c.2 through 5c.5. |

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|  | **5c.1)** | **5c.2)** | **5c.3)** | **5c.4)** |  | **5c.5)** |
|  | Estimated annual hours of operation | Estimated monthly hours during normal operation | Average actual monthly hours | Higher of the numbers entered for 5c.2 and 5c.3 | **x 12** | Estimated operating hours |
| engine 1 |  |  |  |  | X 12 |  |
| engine 2 |  |  |  |  | X 12 |  |
| engine 3 |  |  |  |  | X 12 |  |
| engine n |  |  |  |  | X 12 |  |

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| **5d)** VOC-containing Materials). For additional materials, copy this table. | |
|  | No operating data available – Complete 5d.1 and 5d.5 only. |
|  | Some operating data available (less than 12 months’ data) – Complete 5d.2 through 5d.5. |

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|  | **5d.1)** | **5d.2)** | **5d.3)** | **5d.4)** |  | **5d.5)** |
|  | Estimated annual quantity used | Estimated monthly quantity during normal operation | Average actual monthly quantity | Higher of the numbers entered for 5d.2 and 5d.3 | **x 12** | Estimated quantity of VOC-containing material |
| material 1 (gallons) |  |  |  |  | X 12 |  |
| material 2 (gallons) |  |  |  |  | X 12 |  |
| material 3 (gallons) |  |  |  |  | X 12 |  |
| material 4 (gallons) |  |  |  |  | X 12 |  |
| material 5 (gallons) |  |  |  |  | X 12 |  |
| material 6 (gallons) |  |  |  |  | X 12 |  |
| material n (gallons) |  |  |  |  | X 12 |  |

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| **6) Estimation method for Option D** | | | | | | | |
| No operating data available – Complete 6a and 6e only. | | | | | | | |
| Some operating data available (less than 12 months’ data) – Complete 6b through 6e. | | | | | | | |
|  | **6a)** | **6b)** | **6c)** | **6d)** |  | **6e)** | **6f)** |
|  | Estimated annual actual emissions (tons/year) | Estimated future monthly emissions during normal operation (tons/month) | Average actual monthly emissions (tons/month) | Higher of the numbers entered for 6b and 6c | **x 12** | Estimated annual emissions (tons/year) | Option D Threshold (ton/year) – 6e must be less than this number to qualify |
| Individual HAP (listed below): |  |  |  |  |  |  |  |
|  |  |  |  |  | X 12 |  | 5 |
|  |  |  |  |  | X 12 |  | 5 |
|  |  |  |  |  | X 12 |  | 5 |
|  |  |  |  |  | X 12 |  | 5 |
|  |  |  |  |  | X 12 |  | 5 |
|  |  |  |  |  | X 12 |  | 5 |
|  |  |  |  |  | X 12 |  | 5 |
|  |  |  |  |  | X 12 |  | 5 |
| Total HAP |  |  |  |  | X 12 |  | 12.5 |
| Total Particulate Matter (PM) |  |  |  |  | X 12 |  | 50 |
| PM <10 microns (PM10) |  |  |  |  | X 12 |  | 50 |
| Volatile Organic Compound (VOC) |  |  |  |  | X 12 |  | 50 |
| Sulfur Dioxide (SO2) |  |  |  |  | X 12 |  | 50 |
| Nitrogen Oxides (NOX) |  |  |  |  | X 12 |  | 50 |
| Carbon Monoxide (CO) |  |  |  |  | X 12 |  | 50 |
| Lead (Pb) |  |  |  |  | X 12 |  | 0.5 |
| Greenhouse Gas (as CO2e) |  |  |  |  | X 12 |  | 50,000 |

*Hazardous Air Pollutant (HAP)*

*\*Per Minn. R. 7007.1130, subp. 8, if actual emissions of sulfur dioxide or particulate matter less than 10 microns exceeds 5 tons per year, the following recordkeeping must be kept:*

*A) the location of the emission points*

*B) the potential emissions in pounds per hour of sulfur dioxide and pm10*

*C) the gas flow rate and temperature, stack height and diameter*

*The owner or operator should be prepared to submit this information within 45 days of a request from the commissioner*

Form RP-04 instructions

Use this form to make estimates for Registration Permit applicability, for facilities that do not have relevant historical operating data, or that have some relevant historical operating data, but for fewer than 12 months.

**1a)** **AQ Facility ID number** – Fill in your Air Quality (AQ) Facility Identifications (ID) number. This is the first eight digits of the permit number for all permits issued under the operating permit program.

**1b)** **Agency interest ID number** – Fill in your agency interest ID number. This is an ID number assigned to your facility through the Tempo database. If you don’t know this number, leave this line blank.

**2)** **Facility name** – Enter your facility name.

**3)** **This form is being used to calculate estimates for:** – Indicate which Registration Permit Option you are applying for. For Option B, complete Item 4. For Option C, complete Item 5. For Option D, complete Item 6.

**4)** **Estimation method for Option B** – Check the appropriate box, based on whether or not you have actual operating data for the facility. If you do not have operating data, complete 4a. If you have some operating data, complete 4b.

**4a)** **For facilities that do not have any relevant historical operating data** – Use when:

* Applying for a permit for a new facility, for which operation has not yet begun, or
* An existing facility is changing its method of operation such that any historical data do not provide an accurate indication of the operations that will take place under this permit (i.e., any historical data are irrelevant), or
* Historical operating data do not exist (i.e., records have not been kept or are not available).

**Estimated annual quantity of VOC-containing material** – Enter the estimated quantity of Volatile Organic Compound/Chemical (VOC)-containing material to be used on a calendar-year basis.

The Estimated Annual Quantity must be less than 2000 gallons per calendar year to qualify for Option B. Transfer this number to Item 15 of Form RP-01 and indicate there whether the estimate is of material use or purchase.

**4b)** **For facilities that have some relevant historical operating data, but for fewer than 12 months** – Use this calculation when the facility has been operating as it will be under this permit, but for fewer than 12 months, and operating data from this period are available.

**4b.1)** **Average monthly gallons of VOC-containing material for the months operated** – For the months that the facility has been operating under normal conditions and for which data exist, enter the average gallons per month of VOC-containing materials that were purchased or used. You may use purchase or usage records, but whichever you choose, you must stick with this choice.

**4b.2)** **Estimated monthly quantity of VOC-containing material during normal operation** – Estimate the quantity of VOC-containing materials that will be used or purchased (whichever you chose in item 4b.1) on a monthly basis in the future, in gallons, under normal operating conditions. (Minn. R. 7007.1120, subp. 2(E)(2), requires that this estimate be done, in addition to the average of the actual monthly usage or purchase.)

**4b.3)** **Higher of the 2 previous numbers** – Choose the higher of either the actual monthly average (item 4b.1) or the estimated monthly usage or purchase (item 4b.2) and enter that number here.

**4b.4)** **Estimated annual quantity of VOC-containing material** – This is the higher monthly quantity you estimated above, multiplied by 12:

Est. Annual Quantity = Higher of items 4b.1 and 4b.2 x 12 months/yea

[item 4b.4] = [item 4b.3] x 12

The Estimated Annual Quantity must be less than 2000 gallons per year to qualify for Option B. Transfer this number to Item 15 of Form RP-01 and indicate there whether the estimate is of material use or purchase.

**5)** **Estimation method for Option C** – For boilers, complete 5a. For engines for which you are estimating fuel usage, complete 5b. For engines for which you are estimating hours of operation, complete 5c. For VOC-containing materials, complete 5d.

**5a)** **Estimating Fuel Quantities for Boilers**

Remember to calculate fuel use/purchase for boilers separately from engines. Make copies of the table if necessary.

Check the appropriate box, based on whether or not you have actual operating data for the facility. If you do not have operating data, complete only 5a.1 and 5a.5. If you have some operating data, complete only 5a.2 through 5a.5.

**5a.1)** **Estimated Annual Quantity to be Used** – Complete this item only under the following circumstances:

* When applying for a permit for a new facility, for which operation has not yet begun, or
* When an existing facility is changing its method of operation such that any historical data do not provide an accurate indication of the operations that will take place under this permit (i.e., any historical data are irrelevant), or
* When historical operating data do not exist (i.e., records have not been kept or are not available).

Enter the quantity of fuel you expect to use in the boilers on a 12-month rolling sum basis. You may base this estimate on purchase or use, but whichever method you choose, you must keep future records on that basis.

**5a.2)** **Estimated monthly quantity during normal operation** – Complete this item when you have some actual operating data available. Estimate the quantity of each type of fuel that will be used or purchased on a monthly basis under normal operating conditions. (Minn. R. 7007.1125, subp. 2(E)(2), requires that this estimate be done, in addition to the average of the actual monthly usage or purchase.) You may base this estimate on purchase or use, but whichever method you choose, you must keep future records on that basis.

**5a.3)** **Average actual monthly quantity** – Complete this item when you have some actual operating data available. Enter the average quantity of each fuel that has been used or purchased during the months for which you have actual operating data. [You must use the same basis (use or purchase) as used in Item 5a.2.]

**5a.4)** **Higher of the Estimated and Annual monthly quantities** – For each fuel type, enter the higher of the numbers under 5a.2 and 5a.3.

**5a.5)** **Estimated fuel quantity** – If you have no operating data available (in which case you completed 5a.1), enter the numbers from 5a.1 here. If you do have operating data available (in which case you completed 5a.2 through 5a.4), multiply the number in Item 5a.4 by 12 (months per year) to get an estimated annual fuel usage/purchase. Transfer these numbers (for each fuel used or purchased) to Form RP-C1, in the “FB” column under Item 3/Calculation 1.

**5b)** **Estimating fuel quantities for engines**

Remember to calculate fuel use/purchase for engines separately from boilers. Make copies of the table if necessary.

Check the appropriate box, based on whether or not you have actual operating data for the facility. If you do not have operating data, complete 5b.1 and 5b.5. If you have some operating data, complete 5b.2 through 5b.5.

**5b.1)** **Estimated annual quantity to be used** – Complete this item only under the following circumstances:

* When applying for a permit for a new facility, for which operation has not yet begun, or
* When an existing facility is changing its method of operation such that any historical data do not provide an accurate indication of the operations that will take place under this permit (i.e., any historical data are irrelevant), or
* When historical operating data do not exist (i.e., records have not been kept or are not available).

Enter the quantity of fuel you expect to use in the engines on a 12-month rolling sum basis. You may base this estimate on purchase or use, but whichever method you choose, you must keep future records on that basis.

**5b.2)** **Estimated monthly quantity during normal operation** – Complete this item when you have some actual operating data available. Estimate the quantity of each type of fuel that will be used or purchased on a monthly basis under normal operating conditions. (Minn. R. 7007.1125, subp. 2(E)(2), requires that this estimate be done, in addition to the average of the actual monthly usage or purchase.) You may base this estimate on purchase or use, but whichever method you choose, you must keep future records on that basis.

**5b.3)** **Average actual monthly quantity** – Complete this item when you have some actual operating data available. Enter the average quantity of each fuel that has been used or purchased in the engines for which you are using this option, during the months for which you have operating data. [You must use the same basis (use or purchase) as used in Item 5b.2.]

**5b.4)** **Higher of the estimated and annual monthly quantities** – For each fuel type, enter the higher of the numbers under 5b.2 and 5b.3.

**5b.5)** **Estimated fuel quantity** – If you have no operating data available (in which case you completed 5b.1), enter the numbers from 5a.1 here. If you do have operating data available (in which case you completed 5b.2 through 5b.4), multiply the number in Item 5b.4 by 12 (months per year) to get an estimated annual fuel usage/purchase. Transfer these numbers (for each fuel used or purchased) to Form RP-C1, in the “FB” column under Item 4/Calculation 2A.

**5c)** **Estimating hours of operation for engines** – Check the appropriate box, based on whether or not you have actual operating data for the facility. If you do not have operating data, complete 5c.1 and 5c.5. If you have some operating data, complete 5c.2 through 5c.5.

**5c.1)** **Estimated annual hours of operation** – Complete this item only under the following circumstances:

* When applying for a permit for a new facility, for which operation has not yet begun, or
* When an existing facility is changing its method of operation such that any historical data do not provide an accurate indication of the operations that will take place under this permit (i.e., any historical data are irrelevant), or
* When historical operating data do not exist (i.e., records have not been kept or are not available).

Enter the annual hours you expect to run these engines on a 12-month rolling sum basis.

**5c.2)** **Estimated monthly hours during normal operation** – Complete this item when you have some actual operating data available. Estimate the monthly hours of operation of each engine for which you are using this option, under normal operating conditions. (Minn. R. 7007.1125, subp. 2(E)(2), requires that this estimate be done, in addition to the average of the actual monthly usage or purchase.)

**5c.3)** **Average actual monthly hours** – Complete this item when you have some actual operating data. Enter the average number of hours that each engine for which you are using this option, and for which you have operating data.

**5c.4)** **Higher of the estimated and annual monthly hours** – For each engine, enter the higher of the numbers under 5c.2 and 5c.3.

**5c.5)** **Estimated operating hours** – If you have no operating data available (in which case you completed 5c.1), enter the numbers from 5c.1 here. If you do have operating data available (in which case you completed 5c.2 through 5c.4), multiply the number in Item 5c.4 by 12 (months per year) to get the estimated annual hours of operation. Transfer these numbers (for each engine for which you are using this option) to Form RP-C1, in the “hrO” column under Item 4/Calculation 2B.

**5d)** **Estimating quantities of VOC-containing materials**

Check the appropriate box, based on whether or not you have actual operating data for the facility. If you do not have operating data, complete 5d.1 and 5d.5. If you have some operating data, complete 5d.2 through 5d.5.

**5d.1)** **Estimated annual quantity used** – Complete this item only under the following circumstances:

* When applying for a permit for a new facility, for which operation has not yet begun, or
* When an existing facility is changing its method of operation such that any historical data do not provide an accurate indication of the operations that will take place under this permit (i.e., any historical data are irrelevant), or
* When historical operating data do not exist (i.e., records have not been kept or are not available).

Enter the amounts of each VOC-containing material you expect to use on a 12-month rolling sum basis.

**5d.2)** **Estimated monthly quantity during normal operation** – Complete this item when you have some actual operating data. Estimate the quantity of each type of VOC-containing material that will be used or purchased on a monthly basis under normal operating conditions. (Minn. R. 7007.1125, subp. 2(E)(2), requires that this estimate be done, in addition to the average of the actual monthly usage or purchase.) You may base this estimate on purchase or use, but whichever method you choose, you must keep records on that basis.

**5d.3)** **Average actual monthly quantity** – Complete this item when you have some actual operating data. Enter the average quantity of each VOC-containing material that has been used or purchased during the months that the facility has been operating as it will under this permit. [You must use the same basis (use or purchase) as used in Item 5d.1]

**5d.4)** **Higher of the estimated and annual monthly quantities** – For each VOC-containing material, enter the higher of the numbers under 5d.2 and 5d.3.

**5d.5)** **Estimated quantity of VOC-containing material** – If you have no operating data available (in which case you completed 5d.1), enter the numbers from 5d.1 here. If you do have operating data available (in which case you completed 5d.2 through 5d.4), multiply the number in Item 5d.4 by 12 (months per year) to get an estimated annual usage of each VOC-containing material. Transfer these numbers (for each VOC-containing material) to Form RP-C1, in the “usage” column under Item 5/Calculation 3.

**6)** **Estimation method for Option D**

Check the appropriate box, based on whether or not you have actual operating data for the facility. If you do not have operating data, complete 6a and 6e. If you have some operating data, complete 6b through 6e.

Complete ***only*** Items 6a and 6c (i.e., do not complete Item 6b) under the following circumstances:

* When applying for a permit for a new facility, for which operation has not yet begun, or
* When an existing facility is changing its method of operation such that any historical data do not provide an accurate indication of the operations that will take place under this permit (i.e., any historical data are irrelevant), or
* When historical operating data do not exist (i.e., records have not been kept or are not available).

Complete ***all*** items (6a through 6c) when the facility has been operating as it will be under this permit, but for fewer than 12 months, and operating data from this period are available.

**6a)** **Estimated annual actual emissions** – Complete this item only under the following circumstances:

* When applying for a permit for a new facility, for which operation has not yet begun, or
* When an existing facility is changing its method of operation such that any historical data do not provide an accurate indication of the operations that will take place under this permit (i.e., any historical data are irrelevant), or
* When historical operating data do not exist (i.e., records have not been kept or are not available).

Enter the estimated actual annual emissions, in tons per year, calculated as described in Minn. R. 7007.1130, subp. 4.

Step-by-step instructions for calculating your emissions are available on the Emissions Calculations webpage, <https://www.pca.state.mn.us/air/emission-calculations>. In addition, spreadsheets have been developed for certain operations, and are available on the Small Business Environmental Assistance Program – Resources webpage, <https://www.pca.state.mn.us/regulations/industry-and-process-specific-resources>.

**6b)** **Estimated future monthly emissions during normal operation** – Complete this item only if you have some actual operating data.

For each pollutant, estimate the estimated future monthly emission rate, under normal operating conditions, in tons. (Minn. R. 7007.1130, subp. 2(E)(2), requires that this estimate be done, in addition to the average of the actual monthly usage or purchase.)

**6c)** **Average actual monthly emissions** – Complete this item only if you have some actual operating data.

For each pollutant, calculate the average monthly emissions, based on the actual emissions during the months the facility has operated and for which you have operating data.

**6d)** **Higher of the numbers entered for 5c.2 and 5c.3**

For each pollutant, compare the numbers in items 6b and 6c and enter the higher of the two numbers here.

**6e)** **Estimated operating hours** – If you have no operating data available (in which case you completed 6a), enter the numbers from 6a here. If you do have operating data available (in which case you completed 6b through 6d), multiply the number in Item 6d by 12 (months per year) to get the estimated annual emissions. In order to qualify for the Option D permit, these numbers must be below the thresholds listed in column 6f. These numbers (from 6e) should then be transferred to   
Form RP-D1.