|  |  |
| --- | --- |
| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | CH-04a  Determination of increases at major sources  Air Quality Permit Program  *Doc Type: Permit Application* |

[**Instructions on page 6**](#_Instructions_for_Form)**.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1a) AQ Facility ID number:** | |  | **1b) Agency Interest ID number:** |  |
| **2) Facility name:** |  | | | |

Use this form to calculate emissions increases at existing major New Source Review (NSR) sources. If the facility is not a major source under NSR, use form *CH-04b*.

**3)** [Reserved]

**4) Modified, replacement, and/or debottlenecked emission units**

Use Table 1 to document the emissions increase or decrease for individual units, tanks, or fugitive sources using the calculation method found in 40 CFR § 52.21(a). The procedure for calculating whether a significant emissions increase will occur depends on the type of emissions unit being modified. See instructions for calculating emissions increases. Complete a separate Table 1 for each modified, replacement, debottlenecked, or permanently shut down emission unit. If you base your calculations on projected actual emissions (rather than future potential emissions), include (in the space provided at the end of Table 1) the title and date of the business document on which you based your projections. If you exclude emissions from your projected actual emissions, include (in the space provided at the end of Table 1) a description of the excluded emissions, including an explanation of why these were excluded. Attach an additional sheet if necessary. Make additional copies if more than three units are affected. Summarize the total sum of the differences for each pollutant in Table 2. Attach your calculations (in both an editable spreadsheet format and a hard copy printout). Refer to the Minnesota Pollution Control Agency (MPCA) Greenhouse Gas (GHG) Emissions website at <https://www.pca.state.mn.us/air/greenhouse-gas-emissions-calculations> for guidance in calculating carbon dioxide equivalents (CO2e) emissions.

**Table 1** (acronyms described on page 8)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SI ID:** |  | Modified | | Replacement | | | | Debottlenecked | | Permanently shut down | |
| **Pollutant** | | | **Projected actual\* or**  **Future potential emissions (tpy)** | | **Baseline actual emissions (tpy)** | | **Exclusions from projected actuals\*\* (tpy)** | | **Sum of the Difference (tpy)** | | **Baseline period start and end dates** |
| PM | | |  | |  | |  | |  | | - |
| PM10 (1) | | |  | |  | |  | |  | | - |
| PM2.5 (1) | | |  | |  | |  | |  | | - |
| NOx | | |  | |  | |  | |  | | - |
| SO2 | | |  | |  | |  | |  | | - |
| CO | | |  | |  | |  | |  | | - |
| VOCs | | |  | |  | |  | |  | | - |
| Lead | | |  | |  | |  | |  | | - |
| Fluorides | | |  | |  | |  | |  | | - |
| Sulfuric acid mist | | |  | |  | |  | |  | | - |
| H2S | | |  | |  | |  | |  | | - |
| Total Reduced Sulfur including H2S | | |  | |  | |  | |  | | - |
| Total Reduced Sulfur compounds including H2S | | |  | |  | |  | |  | | - |
| MWC Organics | | |  | |  | |  | |  | | - |
| MWC Acid Gas | | |  | |  | |  | |  | | - |
| MWC Metals | | |  | |  | |  | |  | | - |
| MSW Landfill Gas | | |  | |  | |  | |  | | - |
| CO2e (2) | | |  | |  | |  | |  | | - |
| \* Title/date of document(s) used as basis for projected actuals: | | | | | |  | | | | | |
| \*\* Description of emissions excluded from projected actuals: | | | | | |  | | | | | |

*(1) Includes organic and inorganic condensable particulate matter*

*(2) CO2e = carbon dioxide equivalents. This is the weighted sum of carbon dioxide, methane, nitrous oxides, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons, based on each gases global warming potential. Refer to the MPCA GHG Emissions website at* [*https://www.pca.state.mn.us/air/greenhouse-gas-emissions-calculations*](https://www.pca.state.mn.us/air/greenhouse-gas-emissions-calculations) *for guidance in calculating CO2e emissions.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SI ID:** |  | Modified | | Replacement | | | | | Debottlenecked | | Permanently shut down | |
| **Pollutant** | | | **Projected actual\* or**  **Future potential emissions (tpy)** | | **Baseline actual emissions (tpy)** | | | **Exclusions from projected actuals\*\* (tpy)** | | **Sum of the Difference (tpy)** | | **Baseline period start and end dates** |
| PM | | |  | |  | | |  | |  | | - |
| PM10 | | |  | |  | | |  | |  | | - |
| PM2.5 | | |  | |  | | |  | |  | | - |
| NOx | | |  | |  | | |  | |  | | - |
| SO2 | | |  | |  | | |  | |  | | - |
| CO | | |  | |  | | |  | |  | | - |
| VOCs | | |  | |  | | |  | |  | | - |
| Lead | | |  | |  | | |  | |  | | - |
| Fluorides | | |  | |  | | |  | |  | | - |
| Sulfuric acid mist | | |  | |  | | |  | |  | | - |
| H2S | | |  | |  | | |  | |  | | - |
| Total Reduced Sulfur including H2S | | |  | |  | | |  | |  | | - |
| Total Reduced Sulfur Compounds including H2S | | |  | |  | | |  | |  | | - |
| MWC Organics | | |  | |  | | |  | |  | | - |
| MWC Acid Gas | | |  | |  | | |  | |  | | - |
| MWC Metals | | |  | |  | | |  | |  | | - |
| MSW Landfill Gas | | |  | |  | | |  | |  | | - |
| CO2e | | |  | |  | | |  | |  | | - |
| \* Title/date of document(s) used as basis for projected actuals: | | | | | | |  | | | | | |
| \*\* Description of emissions excluded from projected actuals: | | | | | |  | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SI ID:** |  | Modified | | Replacement | | | | | Debottlenecked | | Permanently shut down | |
| **Pollutant** | | | **Projected actual\* or**  **Future potential emissions (tpy)** | | **Baseline actual emissions (tpy)** | | | **Exclusions from projected actuals\*\* (tpy)** | | **Sum of the Difference (tpy)** | | **Baseline period start and end dates** |
| PM | | |  | |  | | |  | |  | | - |
| PM10 | | |  | |  | | |  | |  | | - |
| PM2.5 | | |  | |  | | |  | |  | | - |
| NOx | | |  | |  | | |  | |  | | - |
| SO2 | | |  | |  | | |  | |  | | - |
| CO | | |  | |  | | |  | |  | | - |
| VOCs | | |  | |  | | |  | |  | | - |
| Lead | | |  | |  | | |  | |  | | - |
| Fluorides | | |  | |  | | |  | |  | | - |
| Sulfuric acid mist | | |  | |  | | |  | |  | | - |
| H2S | | |  | |  | | |  | |  | | - |
| Total reduced sulfur including H2S | | |  | |  | | |  | |  | | - |
| Total reduced sulfur compounds including H2S | | |  | |  | | |  | |  | | - |
| MWC organics | | |  | |  | | |  | |  | | - |
| MWC acid gas | | |  | |  | | |  | |  | | - |
| MWC metals | | |  | |  | | |  | |  | | - |
| MSW landfill gas | | |  | |  | | |  | |  | | - |
| CO2e | | |  | |  | | |  | |  | | - |
| \* Title/date of document(s) used as basis for projected actuals: | | | | | | |  | | | | | |
| \*\* Description of emissions excluded from projected actuals: | | | | | |  | | | | | | |

**Table 2 – Summary of Table 1 results** (acronyms described on page 8)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SI IDs:** |  |  |  |  |  |  |  |  |  |  | **Total** |
| **Pollutant** | **Sum of the Difference (tpy)** | | **Sum of the Difference (tpy)** | | **Sum of the Difference (tpy)** | | **Sum of the Difference (tpy)** | | **Sum of the Difference (tpy)** | | **Sum of the Differences (tpy)** |
| PM |  | |  | |  | |  | |  | |  |
| PM10 |  | |  | |  | |  | |  | |  |
| PM2.5 |  | |  | |  | |  | |  | |  |
| NOx |  | |  | |  | |  | |  | |  |
| SO2 |  | |  | |  | |  | |  | |  |
| CO |  | |  | |  | |  | |  | |  |
| VOCs |  | |  | |  | |  | |  | |  |
| Lead |  | |  | |  | |  | |  | |  |
| Fluorides |  | |  | |  | |  | |  | |  |
| Sulfuric acid mist |  | |  | |  | |  | |  | |  |
| H2S |  | |  | |  | |  | |  | |  |
| Total reduced sulfur including H2S |  | |  | |  | |  | |  | |  |
| Total reduced sulfur compounds including H2S |  | |  | |  | |  | |  | |  |
| MWC organics |  | |  | |  | |  | |  | |  |
| MWC acid gas |  | |  | |  | |  | |  | |  |
| MWC metals |  | |  | |  | |  | |  | |  |
| MSW landfill gas |  | |  | |  | |  | |  | |  |
| CO2e |  | |  | |  | |  | |  | |  |

**5) Installation or construction of new emission units**

Use this table to document the potential emissions (PTE) from each *new* emission unit, tank, or fugitive source. Copy this table if more than five units are added. Attach your calculations (in both an editable spreadsheet format and a hard copy printout).

**Table 3** (acronyms described on page 8)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SI IDs:** |  |  |  |  |  |  |  |  |  |  |  |
| **Pollutant** | **PTE (tpy)** | | **(PTE) (tpy)** | | **(PTE) (tpy)** | | **(PTE) (tpy)** | | **PTE (tpy)** | | **Total**  **(tpy)** |
| PM |  | |  | |  | |  | |  | |  |
| PM10 |  | |  | |  | |  | |  | |  |
| PM2.5 |  | |  | |  | |  | |  | |  |
| NOx |  | |  | |  | |  | |  | |  |
| SO2 |  | |  | |  | |  | |  | |  |
| CO |  | |  | |  | |  | |  | |  |
| VOCs |  | |  | |  | |  | |  | |  |
| Lead |  | |  | |  | |  | |  | |  |
| Fluorides |  | |  | |  | |  | |  | |  |
| Sulfuric acid mist |  | |  | |  | |  | |  | |  |
| H2S |  | |  | |  | |  | |  | |  |
| Total reduced sulfur including H2S |  | |  | |  | |  | |  | |  |
| Total reduced sulfur compounds including H2S |  | |  | |  | |  | |  | |  |
| MWC organics |  | |  | |  | |  | |  | |  |
| MWC acid gas |  | |  | |  | |  | |  | |  |
| MWC metals |  | |  | |  | |  | |  | |  |
| MSW landfill gas |  | |  | |  | |  | |  | |  |
| CO2e |  | |  | |  | |  | |  | |  |

**6) Totals**

**Table 4 – Project summary** (acronyms described on page 8)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column A** | **Column B** | **Column C** | **Column D** | **Column E** |
| **Pollutant** | **Sum of the differences from modified, replacement, or debottlenecked units (from Table 2)**  **(tpy)** | **Potential emissions from new units (from Table 3)**  **(tpy)** | **Total sum of the differences (tpy)** | **Significant thresholds for major sources**  **(tpy)** |
| PM |  |  |  | 25 1 |
| PM10 |  |  |  | 15 |
| PM2.5 |  |  |  | 10 |
| NOx 2, 3 |  |  |  | 40 |
| SO2 4 |  |  |  | 40 |
| CO |  |  |  | 100 |
| VOCs 5 |  |  |  | 40 |
| Lead |  |  |  | 0.6 |
| Fluorides |  |  |  | 3 |
| Sulfuric acid mist |  |  |  | 7 |
| H2S |  |  |  | 10 |
| Total reduced sulfur including H2S |  |  |  | 10 |
| Total reduced sulfur compoundsincluding H2S |  |  |  | 10 |
| MWC organics 6 |  |  |  | 0.0000035 |
| MWC acid gas 7 |  |  |  | 40 |
| MWC metals 8 |  |  |  | 15 |
| MSW landfill gas 9 |  |  |  | 50 |
| CO2e 10 |  |  |  | 75,000 |

**Note 1:** July 31, 1987, the National Ambient Air Quality Standard for total suspended particulates (TSP) (PM) was repealed and replaced with a standard for PM10. The significant levels in this table are as they appear in the Code of Federal Regulations, March 1994. A source may not be required to comply with Nonattainment NSR for TSP increases above 25 tpy, but may be for PM10 above 15 tpy.

**Note 2:** NOX is a PM2.5 precursor. If NOX is subject to Prevention of Significant Deterioration Program (PSD) permitting, PM2.5 is also subject to PSD permitting whether or not direct PM2.5 emissions are significant.

**Note 3:** NOX is an ozone precursor. If NOX is subject to PSD permitting, ozone is also subject to PSD permitting. Direct ozone emissions are not included in the determination of PSD applicability.

**Note 4:** SO2 is a PM2.5 precursor. If SO2 is subject to PSD permitting, PM2.5 is subject to PSD permitting whether or not direct PM2.5 emissions are significant.

**Note 5:** VOC emissions are an ozone precursor. When VOC emissions exceed the PSD significant threshold for major sources, ozone is subject to PSD permitting. Direct ozone emissions are not included in the determination of PSD applicability.

**Note 6:** MWC Organics means Municipal Waste Combustor Organics. These are defined as total tetra-thro-octa-chlorinated dibenzo-para-dioxins and dibenzofurans.

**Note 7:** MWC acid gases are measured as the sum of sulfur dioxide and hydrochloric acid.

**Note 8:** MWC Metals are measured as particulate matter.

**Note 9:** MSW landfill gas is measured as nonmethane organic compounds.

**Note 10:** On June 23, 2014, the U.S. Supreme Court decided (in Utility Air Regulatory Group (UARG) v. U.S. Environmental Protection Agency) that a project is not subject to regulation by virtue of GHG emissions alone. However, projects subject to regulation for other NSR-regulated pollutants (new or modified “anyway sources”) are still subject to regulation for GHG.

**7) NSR status of proposed modification**

**7ai)** Referring to Table 4, does the number in Column D exceed the threshold in Column E, for any pollutant other than CO2e?

No. Done with this form. Attach all calculations and required documentation (as described within this form). If you were sent to this from form *GI-09C*, go back to that form and answer “No” to the question of whether the proposed change or modification is subject to NSR.

Yes. Go to question 7aii.

**7aii)** Referring to Table 4, does the number in Column D exceed the threshold in Column E, for CO2e?

No. Do not include CO2e in Table 5. Go to question 7b.

Yes. Include CO2e in Table 5. Go to question 7b.

**7b)** In Table 5, list each pollutant for which the number in Column D of Table 4 exceeds the threshold in Column E of Table 4. For each of those pollutants, indicate whether or not you will propose and accept a limit such that the associated threshold in Column E is not exceeded. Refer to the MPCA website at <https://www.pca.state.mn.us/air/synthetic-minor-permit-limits> for information on determining and proposing limits.

**Table 5 – Pollutant status**

|  |  |
| --- | --- |
| **Pollutant exceeding the threshold (Column E) in Table 4** | **Are you proposing a limit such that the threshold in Column E is not exceeded?** |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |
|  | Yes. Describe the limit in item 7c.  No. Complete form *CH-04d* for this pollutant. |

7c) For each pollutant for which you are proposing a limit, briefly describe the limit(s) you are proposing. Also include the limit(s) on form *CD-01*, with your proposed method of demonstrating compliance. See instructions for question 7b when CO2e is included in Table 5.

|  |
| --- |
|  |

# Instructions for form CH-04a

Complete *CH-04a* only if directed on form *CH-0*4 or *GI-09C*.

**1a) AQ Facility ID number --** Fill in your Air Quality (AQ) Facility identification (ID) number. This is the first eight digits of the permit number for all new permits issued under the operating permit program. If you don’t know this number, leave this line blank.

**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)** [Reserved]

**4) Modified, replacement, debottlenecked, and/or permanently shut down emission units**

**Table 1**

Complete a separate Table 1 for each existing or permanently shut down individual unit (which can include emissions units, tanks, or fugitive sources) affected by the project. At the top left of the table, enter or select “EU” (emissions unit), “TK” (tank), “FS” (fugitive source), “EQUI” (Tempo designation for emission units and tanks), or “FUGI” (Tempo designation for fugitive sources) and enter the number as it exists in your current permit. Indicate whether the unit is being modified, replaced, or debottlenecked (see descriptions below).

***Modifications at existing emissions units:***The emissions increase is determined by calculating the difference between the projected actual emissions (or future potential emissions) and the baseline actual emissions. Indicate at the top of the column whether you are using projected actual or future potential emissions.

“Projected actual emissions,” defined at 40 CFR § 52.21(b)(41), means the maximum annual rate, in tons per year, at which an existing emission unit is projected to emit a regulated pollutant in any one of the five years (12-month period) following the date the unit resumes regular operation after the project. If the project increases the emission unit’s design capacity or potential to emit, and the potential to emit the regulated pollutant at full utilization of the unit would result in a significant emissions increase or net emissions increase, then the projected actual emissions are the maximum annual rate at which the existing emission unit is projected to emit a regulated pollutant in any one of ten years following the date the unit resumes regular operation. Projected actual emissions include fugitive emissions to the extent they are quantifiable, and emissions associated with startup, shutdown, and malfunction. Do not take air pollution control equipment into account except as allowed by Minn. R. 7007.1200, subp. 2. You may not take credit for proposed or non-federally-enforceable pollution control equipment.

Projected actual emissions should be based on pre-existing information that was prepared for business-related purposes, not for the purpose of preparing a permit application or applicability determination. Examples include but are not limited to a stockholder prospectus, a letter to a parent company, internal capital equipment requisition requests, and other internal planning documents that detail expected future business activities. Be sure to maintain documentation of the information you use as a basis for projected actual emissions, and list the title and date of the document(s) you used as a basis for your projection; if you do not have adequate documentation of projected business activities, then you must use future potential emissions in the calculations.

There are emissions that may be excluded when calculating the projected actual emissions. These exclusions are defined at 40 CFR § 52.21(b)(41)(ii)(c).

You may instead use future potential emissions in the calculation if you choose. You may wish to do that to avoid recordkeeping requirements, and for electric utility steam generating units (EUSGU), recordkeeping and reporting. You must use future potential emissions if you do not have adequate documentation of projected business activities. If you are using future potential emissions in your analysis, do not take air pollution control equipment into account except as allowed by Minn. R. 7007.1200, subp. 2. You may not take credit for proposed or non-federally-enforceable pollution control equipment.

Baseline actual emissions, defined at 40 CFR § 52.21(b)(48), are the average rate, over a 24-month period within the last ten years, that the unit actually emitted, unless the unit is a EUSGU. If the unit is a EUSGU, the baseline actual emissions are chosen over a 24-month period within the last five years. In either case, you must use the same 24-month period for all units emitting a given pollutant; different 24-month periods may be used for different pollutants. Baseline actual emissions include fugitive emissions to the extent they are quantifiable, and emissions associated with startup, shutdown, and malfunction. You may not use any emissions that exceeded allowable levels in the baseline actual emissions. For additional guidance on baseline actual emissions, see the MPCA website at <https://www.pca.state.mn.us/air/new-source-review-baseline-actual-emissions>.

***Replacement of existing units with similar units:*** When replacing an existing unit with an identical or functionally equivalent unit, the increase is calculated in the same manner as for modification of an existing unit, provided the replacement meets the definition in 40 CFR § 52.21(b)(33). If this is the case, then the emissions increase is the difference between the projected actual emissions of the replacement unit and the baseline actual emissions of the replaced unit. The same requirements described above for using projected actual emission and excluding emissions from the projected actuals apply.

On a separate sheet attached to this form, describe each unit being replaced and the unit replacing it. Explain why the units are identical or functionally equivalent.

***Debottlenecked units or units with increased utilization:*** If the installation of a new emission unit or changes to an existing unit has the effect of allowing other emission units at the facility to operate at a higher capacity than previously utilized given your existing facility design, this is called debottlenecking. The emissions increase for each debottlenecked unit at an existing major source is calculated in the same manner as replacement or modified units. The emissions increase is the difference between the projected actual emissions after debottlenecking and the baseline actual emissions of the unit prior to the debottlenecking. The same requirements described above for using projected actual emission and excluding emissions from the projected actuals apply.

***Permanently shut down units:*** If the project involves permanently shutting down an existing unit, include it here.

***Modifications that involve multiple types of emission units:***If you have a project that involves a combination of existing emission units and/or new units, the **sum of the difference** is calculated for each type of unit as described above. That means for the involved existing emission units you would calculate the increase by comparing future projected actual emissions with baseline actual emissions. The same requirements described above for using projected actual emission and excluding emissions from the projected actuals apply.

For new units, the increase would be calculated at the potential to emit of the new unit, unless the new unit is a replacement unit.

***Example of a modified emission unit situation:***A facility wants to modify a boiler to increase the capacity. The emissions increase or decrease is the projected future actual emission minus the baseline actual emissions. You need not consider any increases that could have been accommodated by the unmodified boiler, and that are not due to the modification; these increases not due to the modification would be excluded emissions that are documented at the end of Table 1.

***Example of a replacement unit situation:***An ethanol plant wants to replace one of its fermentation tanks with a tank having the same design parameters. The emissions increase or decrease is calculated by estimating the future actual emissions from the replacement fermentation tank and subtracting the past actual emissions of the existing tank.

***Example of a debottlenecking situation at a major source:***A painting operation is followed by a curing oven. The oven is a bottleneck for the coating operation. The curing oven can cure 500 parts/hr, but has only been curing 300 parts/hr due to customer demand. At full capacity, the paint booth could paint 1,500 parts/hr if the facility had the full curing capacity, but has only been coating the 300 parts/hr that the oven has been curing.

The facility plans to replace the curing oven due to its lack of energy efficiency. The replacement unit that is commercially available can cure 600 parts/hr. It is assumed that no other units are affected by the modification. The facility plans to continue to produce 300 parts/hr initially after oven replacement, but expects a 20 percent increase in demand over the next five years. To meet that demand, the facility must produce 360 parts/hr.

The emission increase at the debottlenecked paint booth is calculated by the facility’s projected emissions less the past actual emissions, except that increases that could have been accommodated with the existing equipment need not be considered. So, though the potential emissions of the facility have increased, there has been no increase due to the modification either at the curing oven or the paint booth. Both the basis for the projected actuals, and the emissions that are excluded from the projected actual, must be documented at the end of Table 1.

**Table 2**

At the top of each column, enter the EQUI or FUGI (or EU, TK or FS if your permit has not been issued in Tempo) identification numbers from each Table 1 completed. In the appropriate space, enter the calculated increase or decrease of each pollutant.

After you complete one “sum of the difference” column for each EQUI or FUGI, add the values horizontally and enter the total sum of the differenceof each pollutant for all modified, replacement, debottlenecked, or permanently shut down units in the right-hand column.

**5) Installation or construction of new emissions units**

The emissions increase at a new unit is equal to the potential to emit of the unit. Potential to emit (PTE) is the capability at maximum design capacity to emit a pollutant, except as constrained by federally-enforceable conditions (which include the effect of installed air pollution control equipment and restrictions on the hours of operation, or the type or amount of material combusted, stored or processed). However, do not take air pollution control equipment into account except as allowed by Minn. R. 7007.1200, subp. 2. You may not take credit for proposed or non federally-enforceable pollution control equipment.

**6) Totals**

On Table 4, provide the annual emissions in tons per year for all pollutants listed. Include in column B emissions increases or decreases in modified, replacement, and debottlenecked emissions units (from Section 4/Table 1) and in column C the potential emissions from new emissions units (from Section 5/Table 2). Add the numbers in column B and column C and enter the total in column D.

**7) NSR status of proposed modification**

Referring to Table 4, compare the total increase or decrease (column D) to the NSR significant level (column E). If any of the numbers in column D equal or exceed the associated level in column E, the emissions increase is considered significant under NSR for those pollutants except for CO2e. An emissions increase for CO2e is only considered significant if the emissions increase is considered significant for another pollutant listed in Table 4. In addition, if either nitrogen oxides (NOX) or sulfur dioxide (SO2) emissions are above the NSR thresholds in Column E, then the proposed project may also be considered to be major for Particulate Matter less than 2.5 micrometers (PM2.5), since NOX and SO2 are assumed precursors to PM2.5.

7ai) If the emissions from the proposed change or modification are not significant under NSR, you are done with this form and the NSR analysis. If you are applying for an amendment to an existing permit, return to forms *CH-02* and *CH-03* to continue the process of determining the type of permit amendment needed. If you are applying for a first-time individual permit, return to form *GI-09C* and answer “No” to the question of whether the proposed change or modification is subject to NSR.

7aii) If the emissions from the proposed change or modification are not significant for CO2e under NSR, you do not need to include CO2e in Table 5.

7b) If the proposed modification results in a significant emissions increase for one or more pollutants, you may be able to propose limits, such as on hours of operation or amount of raw materials used, or addition of and conditions on the operation of air pollution control equipment, to restrict the emissions of one or more of those pollutants so that they are not significant under NSR. Such limitations are sometimes called “synthetic minor limits.” For guidance on how to propose limits to avoid NSR, see the MPCA website at <https://www.pca.state.mn.us/air/synthetic-minor-permit-limits>. Permits for which synthetic minor limits are proposed must follow the major amendment process. Describe your limit(s) in item 7c, and on form *CD-01*. If the proposed modification results in a significant emissions increase for more than one pollutant, you may propose limits for one or all the pollutants with significant emissions increases. If you are not able or willing to accept synthetic minor limits for all pollutants for which emissions in Colum D of Table 4 exceed the threshold in Column E such that the emissions increase of the proposed modification is not significant under NSR, you must go to form *CH-04d* to continue the analysis for those pollutants for which you are not proposing limits.

If you propose limits to restrict the emissions of all pollutants listed in Table 5 except for CO2e such that only emissions of CO2e are above the applicable threshold, then the proposed change or modification is not subject to NSR and you do not need to complete and submit form *CH-04d*.

Acronyms listed in Tables 1-4

Particulate matter (PM)

Particulate matter less than 10 μm in size (PM10)

Particulate matter less than 2.5 micrometers (PM2.5)

Nitrogen oxides (NOx)

Sulfur dioxide (SO2)

Carbon monoxide (CO)

Volatile organic compounds (VOCs)

Lead (Pb)

Hydrogen sulfide (H2S)

Municipal Waste Combustor (MWC)

Municipal Solid Waste (MSW)

Carbon dioxide equivalent (CO2e)