Instructions for Attachment E212
UNIT EMISSIONS
Supplemental Application Form

(Instructions for Completing DEEP-NSR-APP-212)

All applications for a permit to construct and operate a stationary source shall provide the information listed in the Regulations of Connecticut State Agencies (RCSA) section 22a-174-3a(c). This supplemental application form shall be completed to provide emission rates of *each* unit for which an application is being submitted.

Complete a separate form for *each* unit. Complete each item as appropriate. If a specific item does not apply to your situation indicate N/A (not applicable). If additional space is needed to answer a question stated in the application, attach separate sheet(s) as necessary, clearly identifying the applicant name, form name and Part number, and unit number.

Note: The data provided in these forms will be used to define the operating limits in your permit.

Questions? Visit the Air Permitting web page or contact the Air Permitting Engineer of the Day at 860-424-4152 (between 8:30 AM and 4:30 PM, Monday through Friday).

Applicant Name - Provide the applicant name as previously indicated on the *Permit Application for Stationary Sources of Air Pollution* form (DEEP-NSR-APP-200).

Unit Number - Provide the unit number of the subject unit as previously assigned on the *Permit Application for Stationary Sources of Air Pollution* form (DEEP-NSR-APP-200). Please use a consistent reference number for each unit throughout the application package.

Part I: Unit Emission Information

Spreadsheets are provided in the application forms section of the DEEP website to assist in the calulation of emissions.

Hazardous or Other Air Pollutants - List each hazardous air pollutant (HAP) listed in RCSA section 22a-174-29 or Section 112 of the Clean Air Act that may be emitted by this unit in the first column. Also list any other regulated air pollutant, not considered a criteria pollutant or HAP, that may be emitted by this unit.

Potential Emissions at Maximum Capacity - Provide the potential emission rates, in pounds per hour and tons per year, for each pollutant, criteria and hazardous, emitted by the unit.

Potential emission rates shall be calculated as if the unit will operate at maximum capacity without control equipment. Maximum capacity is defined as the unit's design maximum hourly capacity, or highest demonstrated hourly capacity, whichever is greater, multiplied by 365 days per year and 24 hours per day. Fugitive emissions are included in the determination of potential emissions. If the unit presently has a New Source Review (NSR) permit, then the potential emissions may be calculated considering existing enforceable limitations that will remain unaffected by the proposed modification.

Special Note for Degreasers:

Potential emissions from degreaser operations should **not** be calculated using AP-42. Potential emissions from degreasers should preferably be determined from manufacturer or other data (e.g. mass balance, emissions testing, etc.) from like-kind similarly operated units. Potential emissions from degreasers may also be calculated using equations in section 63.465(e) of 40 CFR Part 63 Subpart T.

Proposed Allowable Emissions - Provide the proposed allowable emission rates, in pounds per hour and tons per year, for each pollutant emitted by the unit. If there are other units appropriate for the limitations then enter the proposed allowable emissions and those units.
The proposed allowable emission rates are intended to be included in the permit as federally enforceable permit conditions.

Proposed allowable emission rates are to include all emissions from the unit including fugitive, uncaptured, or uncontrolled emissions. Proposed allowable emission rates are calculated using the manufacturer's guaranteed overall control efficiency for any control equipment; any physical limitation on the equipment; or, any restriction on production rates, hours of operation, or raw material usage.

If hourly emissions during low load operations, or while starting up or shutting down, will exceed the emissions during full load operations, then these emissions should also be supplied on a separate sheet. Separately note and explain, with estimates of the frequency and duration, any short term emissions which would exceed the hourly emission rate at maximum capacity. Include these emissions in the proposed allowable annual emissions.

The applicant should be aware of any existing regulatory standard applicable to the unit and should not propose allowable emissions in excess of the regulatory standard. All regulatory standards must be listed in Part II of this form.

Potential Emissions Calculation Basis - Provide the basis used to determine the potential emission rates for each pollutant. (e.g., stack test data, mass balance, EPA emission factors, special emission factors, engineering estimate, collection and control efficiencies, etc.).

Proposed Allowable Emissions Calculation Basis - Provide the basis used to determine the proposed allowable emission rates for each pollutant. (e.g., stack test data, mass balance, EPA emission factors, special emission factors, engineering estimate, collection and control efficiencies, etc.).

Hazardous or Other Air Pollutants - List each hazardous air pollutant (HAP) listed in RCSA section 22a-174-29 or Section 112 of the Clean Air Act that may be emitted by this unit in the first column. Also list any other regulated air pollutant, not considered a criteria pollutant or HAP, that may be emitted by this unit.

Part II: Regulatory Standards

Regulatory Standard(s) - Enter the regulatory standard(s) for each pollutant emitted by the unit. Include the appropriate units (e.g., ppmvd, lb/MMBTU, lb/hour, lb/day, etc.). Note that more than one regulatory standard will often apply to a unit for a particular pollutant, list all that apply.

In particular, the applicant should review RCSA sections 22a-174-18, 22a-174-19, 22a-174-20, 22a-174-21, and 22a-174-22 for regulatory standards applicable to this unit. Federal regulations such as NSPSs and MACTs should also be reviewed.

For Hazardous Air Pollutants, regulatory standards from RCSA section 22a-174-29 need not be listed as regulatory limits in this section - MASCs will be determined in Attachment E212-B.

Proposed Allowable Emissions - Provide the proposed allowable emission rates, in the same units as the applicable regulatory standard(s).

Regulatory Citation(s) - Enter the regulatory citation(s) for the regulatory standard(s) listed.

Part III: Attachments

This section offers a checklist of all the attachments necessary to complete this application. All listed Attachments are **REQUIRED**.

Check the appropriate box by each attachment being submitted as verification that all applicable attachments have been submitted. Please label all attachments as referenced in the permit application form and these instructions and be sure to include the name of the applicant as indicated on the application form.

Attachment E212-A – Sample Calculations, REQUIRED

Submit sample calculations used to determine all emissions rates, excluding GHG. See Attachment E212-C for GHG emissions. Spreadsheets are provided in the application forms section of the DEEP website to assist in the calulation of emissions.

Attachment E212-B - Compliance with State Hazardous Air Pollutant Regulations, REQUIRED

Attach a completed CTMASC Spreadsheet or one that contains all the information provided on that spreadsheet.

The instructions for the CTMASC Spreadsheet are provided within the spreadsheet by clicking on the "Instructions" button.

To demonstrate compliance with RCSA section 22a-174-29, the actual stack concentration (ASC) of a HAP, in the exhaust gas stream at the discharge point of the unit under actual operating conditions, shall be less than the maximum allowable stack concentration (MASC). The MASC can be calculated for each HAP that may be emitted using the equations in RCSA section 22a-174-29(c). This calculation shall be performed for any HAP listed in RCSA section 22a-174-29 Tables 29-1, 29-2 or 29-3 that may be emitted by this unit. For fugitive and area source emissions virtual stack parameters should be approximated and explained.

If emissions will be higher over a 30 minute period than half of the proposed permitted hourly emission rate, then include the 30-minute HLV, higher short term emission rate and resulting actual stack concentration, and 30-minute MASC as well.

Attachment E212-C - Greenhouse Gas Emissions, REQUIRED

Attach a completed CO_2 Equivalents Calculator Spreadsheet or one that contains all the information provided on that spreadsheet.

The instructions for the CO_2 Equivalents Calculator Spreadsheet provided are as follows:

Applicant Name - Provide the applicant name as previously indicated on the *Permit Application for Stationary Sources of Air Pollution* form (DEEP-NSR-APP-200).

Emissions Unit Number - Provide the identification number previously assigned to this equipment in the *Permit Application for Stationary Sources of Air Pollution* form (DEEP-NSR-APP-200).

1. For the following GHGs: Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O) and Sulfur Hexafluoride (SF_6) enter the following information:

   Potential Emissions - Provide the potential emission rates, in pounds per hour for each pollutant emitted by the unit. The annual potential emissions (in tons per year) will be calculated by the spreadsheet.

   Proposed Allowable Emissions - Provide the proposed allowable emission rates, in pounds per hour and tons per year, in the appropriate columns for each pollutant emitted by the unit.

   Basis - Provide the basis used to determine the emission rates (e.g., stack test data, mass balance, EPA emission factors, special emission factors, engineering estimate, collection and control efficiencies, etc.).

2. *Hydrofluorocarbon/Perfluorocarbon Gases* - If operation of the unit will result in the emission of any of the Hydrofluorocarbon or Perfluorocarbon gases, then these emissions must also be included. To provide the information for these GHGs, click on the "Hydrofluorocarbon /Perfluorocarbon Gases" button, and select the appropriate GHGs from the dropdown menu. Provide the information as stated above for these GHGs as well.

As the potential emission rates are entered into the spreadsheet the corresponding CO_2 equivalents are automatically calculated and totaled.