

**POLK COUNTY PUBLIC WORKS
AIR QUALITY DIVISION
CONSTRUCTION PERMIT APPLICATION**

☞ SEE INSTRUCTIONS ON REVERSE SIDE ☞

(1) COMPANY NAME			
(2) CERTIFICATION			
I certify that based on information and belief formed after reasonable inquiry, the enclosed documents including the attachments are true, accurate, and complete. Responsible Official: Print Name _____ Signature _____ Title/Date _____		POLK COUNTY USE DATE RECEIVED _____ PERMIT NUMBER _____ FACILITY NUMBER _____ ISSUE DATE _____	
(3) PLANT PERMIT CONTACT PERSON			
Name/Title _____			Telephone No.: _____
Street Address _____	City _____	State _____	Zip _____
(4) EQUIPMENT LOCATION			
Street or Route _____	City _____	State _____ Iowa	Zip _____
Is the Equipment Portable? <input type="checkbox"/> Yes, other Locations(s): _____ <input type="checkbox"/> No			
(5) PERMIT PREPARER/CONSULTANT			
Name/Title _____		Iowa P.E. Registration No. (if any): _____	
Company Name _____		Telephone/Fax: _____	
Street Address _____	City _____	State _____	Zip _____
(6) PERMIT APPLICATION TYPE			
<input type="checkbox"/> New Source <input type="checkbox"/> Modification to a permitted existing source (Previous Permit No. _____) ★ <input type="checkbox"/> Unpermitted existing source <input type="checkbox"/> Other: _____			
(7) Briefly describe the activity of your business and its principal product:			
(8) Provide SIC code (if known): _____			
(9) Actual initial cost of the new equipment excluding installation costs:			
			\$ _____ (Enclose Documentation)

Instructions

This form is used by Polk County to identify a company or facility, equipment locations, and personnel involved in the permit application. Additional information may be requested.

1. Provide the name of the company or organization applying for the permit.
2. Fill in the certification section with a signature, name, title and date. The certification must be signed by a responsible official. A responsible official could be the owner, the designated representative of the owner, or the permit engineer who prepared the application.
3. Provide the name, address, and telephone number of the person who can be reached for questions about your permit application during the review.
4. If the equipment to be permitted is at a different location than the plant permit contact person's address, give the address here. If the equipment is at the same location, mark "same". If the equipment is portable (such as an asphalt plant), identify by marking "yes" here. Also, if there are other known locations where portable equipment will be used, write the location(s) beside "Other location(s)". Attach a separate sheet, if needed, to list multiple locations.
5. If the permit application has been prepared by a consultant, provide the name, address, etc., of the consultant. An Iowa Professional Engineering registration number should be available from the consultant. If the permit application was prepared by a company employee who is not a registered Professional Engineer, then leave this blank.
6. Mark the type of permit you are applying for, such as a new source which has not been constructed, an existing permitted source that is being modified, or an existing source (as-built) that is applying for a permit for the first time.
7. Briefly describe the primary activity and principal product of your business.
8. Provide the SIC code (if known) for your business. The Standard Industrial Classification codes are a compilation by the federal government of businesses by type of activity in which they are engaged. Standard Industrial Classification (SIC) codes are intended to cover the entire field of economic activity.
9. Provide documentation showing the cost of the new control equipment. Do not include the cost of process equipment installation.

**POLK COUNTY PUBLIC WORKS
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Emission Unit Information

☞ SEE INSTRUCTIONS ON REVERSE SIDE ☞

Company Name:		
EMISSION UNIT (SOURCE OF AIR POLLUTANT(S)) DESCRIPTION AND SPECIFICATIONS		
(1) Emission Unit (EU) Name:	(2) EU ID Number:	(3) Date of Construction:
(4) Manufacturer:	(5) Model:	(6) Date of Modification (if applicable):
(7) Maximum Capacity:	(8) SCC Code (if known):	(9) Control Device Name and No. (if any)
<p>(10) Are you requesting any permit limits? <input type="checkbox"/> NO <input type="checkbox"/> YES</p> <p>If yes, write down all that apply:</p> <p>(a) Hourly limits: _____ (b) Production limits:</p> <p>(c) Material usage limits _____ (d) Other:</p> <p>Rationale for requesting the limit(s):</p>		
<p>11) Provide a description AND a drawing to show quantitatively how product or material flows through this emission unit. Include product input and output, fuel throughput, and any parameters which impact air emissions. If space below is insufficient, attach a separate sheet.</p>		

Instructions

This form is designed to provide Polk County about the emission unit, including a written description of how product and/or material flow through the emission unit. An emission unit is the equipment or process which generates emissions of regulated air pollutants. This form is used by the reviewer to become familiar with the emission unit.

Please put your company name in the box provided. This is useful in case any pages of the application get separated.

1. Provide the name of the emission unit, such as "paint booth", "boiler", etc.
2. Provide the identification number of the emission unit. This number is used for this permit application to identify the emission unit. It can be any number. **However, if you submitted a Title V permit application, the numbers used for identification purposes in this application should be consistent with the ID numbers used in your Title V application. Also, the ID number should match the ID numbers used on other construction permit applications and within this application.** Each emission unit in the application must have its own number. If there are multiple emission units which are involved in this permit application and they are not identical, fill out a separate form for each emission unit. If you have two emission units going to one control device with one stack, fill out a form for both emission units if they are not identical. If the emission units are identical, attach a separate sheet listing each emission unit by name, number, date of construction, date of modification (if applicable) and any other information which is different.
3. The date of construction of the emission unit is the date, month, and year in which construction or modification begins as defined in Chapter V of the Polk County Board of Health Rules and Regulations.
4. Provide the manufacturer of the emission unit's name. If the unit is custom-designed or homemade, indicate this.
5. Provide the model number of the emission unit. If the unit is custom-designed or homemade, indicate this.
6. If the emission unit has been or will be modified, give the date, month and year of the most recent or future modification.
7. Provide the maximum capacity of the emission unit or process which is generating emissions of air pollutants. For example, a bake oven would have a capacity in terms of heat input of natural gas it is fueled on (in MMBtu/hr); an assembly line would have a capacity of parts produced per day. This capacity should be based on a rated nameplate or manufacturer's literature capacity.
8. The Source Classification Code (SCC) represents a unique process or function within a source category associated with a point of air pollution emissions. SCC's were developed by the EPA to aid in classifying and tabulating air pollution emissions. SCCs try to estimate the emissions of the six criteria pollutants by providing emission factors for various industrial processes. For example, if you have a process heater fueled on natural gas with a rating of 50 MMBtu/hr, then your SCC code is 1-02-006-02 and there are emission factors listed to estimate the emissions of the six criteria pollutants from your process heater. If you do not know the emission unit's SCC code, then leave this blank.
9. Provide the control device name and number, if there is a control device attached to this emission unit. The name and number of the control device should be consistent throughout the application.
10. If you wish to have permit limits placed on the emission unit mark "Yes". Then, write down each type of limit that applies to your permit application and put the requested limit. For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day. If requesting a permit limit(s), indicate the reason for the requested limit. This is to help Polk County and the applicant determine whether the limits are necessary, and whether or not they will accomplish the desired purpose.
11. The process description should include what raw materials or products enter and exit the emission unit, how they flow through the emission unit, any fuel usage which occurs at the emission unit, and any other material or product which flows into and out of the emission unit.

Instructions

This form is used by Polk County to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

Please put your company name in the box provided. This is useful in case any pages of the application get separated.

1. Provide the name of the type of control device used. IF THERE IS NO CONTROL DEVICE ATTACHED TO THE EMISSION UNIT DESCRIBED IN EU PUT "NONE" AND GO TO BOXES (13) THROUGH (19).
2. Identify the control device by number. This number should match numbers used in other permit applications and be consistent within this application.
3. Provide the date the control device was installed or will be installed at the emission unit(s).
4. Provide the manufacturer's name for the control device. If custom-designed or homemade, indicate here.
5. Provide the model number for the control device. If custom-designed or homemade, indicate here.
6. If the control device has been or will be modified, write the date, month and year of the modification.
7. Indicate whether the control device operates on the same schedule as the emission unit it controls. If it does not, write down what the schedule is.
8. Indicate whether there is a capture hood associated with the emission unit.
9. If there is a capture hood, write down its capture efficiency, if known.
10. Write down the emission unit number(s) that are controlled by this control device.
11. If you have supporting documentation for the control efficiency(s) of the control device, mark the type of documentation you have, either manufacturer's data or stack testing report. Manufacturer's data can include a manufacturer's guaranteed emission rate or a guaranteed control efficiency. Attach the supporting documentation and label this attachment. Then, list the pollutant and provide the estimated or proven control efficiency for the control device on this form. If the control device will be controlling more than one pollutant at this emission unit, list all pollutants and the corresponding efficiencies.
12. If you do not have the documentation requested in box (11), provide other documentation for the control efficiency such as calculations or design data or other reference document. You may use the space in box (12) or attach a separate sheet.
13. Provide the number(s) of the emission point(s). **An emission point is the same as a stack or vent.**
14. Provide the height of the top of the emission point(s) above ground. If you have multiple stacks from one emission unit or control device, attach a sheet that gives the information requested in (13)-(16) for each stack.
15. Indicate by checking a box whether the stack or vent opening is circular or other shape and write in the dimensions of the opening.
16. Indicate by checking a box what the discharge style is.
17. If there is a fan with the emission point, give the rated capacity of the fan in actual or standard cubic feet.
18. Provide the moisture content, in percent, of the exhaust gas, if known. If unknown, leave blank.
19. Provide the temperature of the exhaust at the emission point in degrees Fahrenheit.
20. **Collection of Greenhouse Gas (GHG) Emissions Data** - Starting on July 2, 2007, construction permit applications must include potential greenhouse gas emissions for the project. Applications received without this information will be considered incomplete and the permit(s) cannot be issued until the information has been received. The following are the GHG emissions that must be accounted:
 - (a) **CO₂**: Carbon dioxide.
 - (b) **CH₄**: Methane.
 - (c) **N₂O**: Nitrous oxide. Also known as dinitrogen oxide or dinitrogen monoxide or laughing gas.
 - (d) **SF₆**: Sulfur hexafluoride.
 - (e) **HFC**: Hydrofluorocarbons: **SEE TABLE A: COMMON GREENHOUSE GASES**
 - (f) **PFC**: Perfluorocarbons: **SEE TABLE A: COMMON GREENHOUSE GASES**

POLK COUNTY PUBLIC WORKS AIR QUALITY DIVISION AIR CONSTRUCTION PERMIT APPLICATION

SEE INSTRUCTIONS ON REVERSE SIDE

(1) Company Name _____

(2) Emission Point (Stack/Vent) Number(s): _____

(3) Process Flow Diagram _____

(4) Emission Calculation. This calculation is based on (check all that apply):
 Emission Factors Requested Limits Mass Balance Testing Data Other

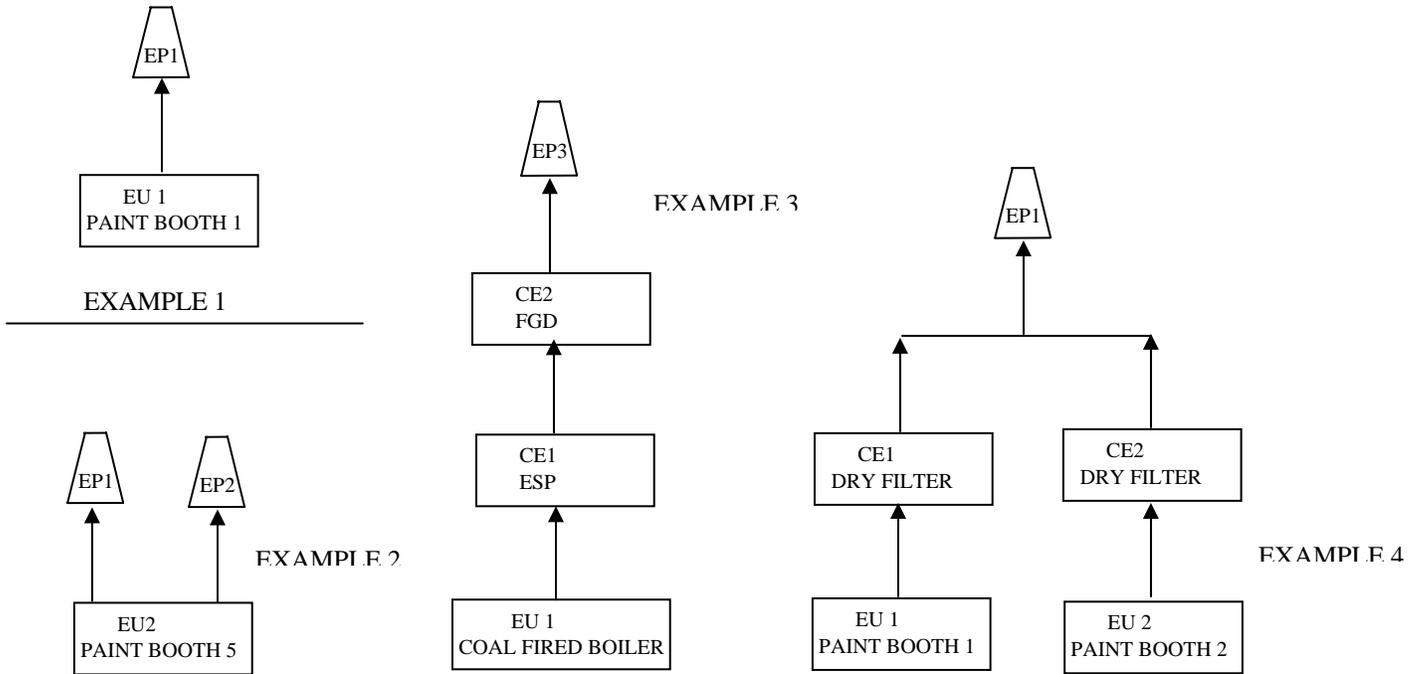
SUMMARY OF EMISSIONS FROM THIS EMISSION POINT

	Pollutant	PM	PM ₁₀	SO ₂	NOx	VOC	CO	Lead	CARBON DIOXIDE (tpy)	METHANE (tpy)	NITROUS OXIDE (tpy)	SULPHUR HEXAFLUORIDE (lbs/yr)	HYDROFLUORO CARBONS (lbs/yr)	PERFLUORO CARBONS (lbs/yr)
(5)	Concentration													
Emissions (After control if applicable)	lbs/hr													
	tons/year or lbs/yr													

Instructions

This form is used by Polk County to better understand the process that is being permitted and to verify the emissions calculations and how they are calculated.

1. Provide company name.
2. Provide the number of the emission point (stack(s) or vent(s)) through which the emission unit(s) will exhaust into the atmosphere. This should be the same number as on all other forms submitted.
3. Process Flow Diagram:
Identify all emission units, showing the pathway of air emissions from each emission unit through each control device (if any) to the stack of vent (see examples below). Identification numbers used in the flow diagram must be consistent throughout this application. You may use this form or attach another diagram if it provides all the information required.



4. Emission Calculations:

Check the appropriate box to indicate the basis for emission calculations. Show emissions calculations in detail for actual and potential to emit **for each air pollutant emitted from this emission point**. Include a description of any assumptions used in making the calculations. If more space is needed, attach an 8.5" x 11" sheet(s) labeled accordingly.
5. Summarize the emissions calculations in this table for each air pollutant emitted from this emission point (stack or vent). Emissions should be calculated as potential to emit. Potential to emit is the uncontrolled emissions at maximum design or achievable capacity (whichever is higher), and year-round continuous operation (8760 hours per year). IF there are no federally-enforceable permit limits on the source. If the emission point will have a control device or some other proposed permit limitation such as hours of operation or material usage, this can be used in calculating potential to emit. For pollutant definitions, refer to Form EI instructions number 5. **Indicate** the concentration unit for each pollutant. Concentration is usually expressed in grains per standard cubic feet for particulates, and parts per million by volume or pounds per million Btu for gaseous pollutants. The blank spaces are for regulated Hazardous Air Pollutants for optional use by Polk County in the future.

POLK COUNTY PUBLIC WORKS AIR QUALITY DIVISION AIR CONSTRUCTION PERMIT APPLICATION

Plant Emission Inventory

SEE INSTRUCTIONS ON REVERSE SIDE

Company Name:																
STACK/VENT EMISSIONS SUMMARY																
(1)	(2)	(3)	(4)	(5) Potential or Permitted Emission Rate (tons/yr)												
EPID	EU ID	Source Description	Permit Number	PMI	PM ₁₀	SO ₂	NO _x	VOC	CO	Lead	CARBON DIOXIDE (tpy)	METHANE (tpy)	NITROUS OXIDE (tpy)	SULPHUR HEXAFLUORIDE (lbs/yr)	HYDROFLUORO CARBONS (lbs/yr)	PERFLUORO CARBONS (lbs/yr)
(6) Total Stack Emissions																
FUGITIVE EMISSIONS SUMMARY																
(7)	Source ID															
(8) Total Fugitive Emissions																
(9) Total Plant Emissions																

Instructions:

This form is designed to provide the reviewer information on plant-wide total emissions and emissions from each source. Total emissions are verified by checking emissions from each source and are used to classify the plant into the appropriate categories for PSD, NSPS, etc. **If your facility is a Title V facility, you may submit annual emissions inventory data in lieu of this form if the inventory is current and contains all the information requested in this form.** Additional information may be requested.

Fill in your company name.

1. Provide the emission point (stack or vent) identification number. Include the emission point number of the source you are seeking a permit for.
2. Provide the emission unit(s) identification number.
3. Provide a brief description of the source identified in 1. & 2.
4. Provide the permit number for the source, if any.
5. Fill in the rate of potential to emit or permitted emission rate in **tons per year** for each pollutant. Potential to emit is defined as uncontrolled emissions at maximum design or achievable capacity (whichever is higher) and year-round continuous operation (8760 hours per year) if there are no federally-enforceable permit limits on the source. If an emission point has been permitted, then the permitted emission rate in tons per year is the potential to emit. If the emission point will have a control device or some other limitation such as hours or material usage, this can be used in calculating potential to emit. Proposed or existing permit limits may be considered to be potential to emit. The following are regulated pollutants which must be accounted for: a. PM: All Particulate Matter (same as total suspended particulate matter). b. PM10: Particulate matter with an aerodynamic diameter of ten microns or less, as measured by an EPA-approved reference method. c. SO₂: Sulfur Dioxide. d. NO_x: Nitrogen Oxides. e. VOCs: Photochemically reactive volatile organic compounds. f. CO: Carbon Monoxide. g. Lead (Pb). h. "Green house gases" - Carbon Dioxide, Methane, Nitrous Oxide, Sulphur Hexafluoride, Hydrofluoro Carbons (HFC), Perfluoro Carbons (PFC).

* **Collection of Greenhouse Gas (GHG) Emissions Data** - Starting on July 2, 2007, construction permit applications must include potential greenhouse gas emissions for the project. Applications received without this information will be considered incomplete and the permit(s) cannot be issued until the information has been received. The following are the GHG emissions that must be accounted:

CO₂: Carbon dioxide.

CH₄: Methane.

N₂O: Nitrous oxide. Also known as dinitrogen oxide or dinitrogen monoxide or laughing gas.

SF₆: Sulfur hexafluoride.

HFC: Hydrofluorocarbons: **SEE TABLE A: COMMON GREENHOUSE GASES**

PFC: Perfluorocarbons: **SEE TABLE A: COMMON GREENHOUSE GASES**

6. Fill in the sum for each pollutant for all emission points (stacks or vents).
7. Fugitive emissions are those emissions which cannot reasonably be made to pass through a stack or vent or equivalent opening. In some cases, fugitive emissions must be included with a permit application. Fugitive emissions must be included if your facility is one of the 28 named source categories found in PSD rules in 40CFR 52.521; if your facility is subject to a NSPS standards as of August 7, 1980; if your facility is subject to a NESHAP standard as of August 7, 1980; or if your facility has been determined to be major for PSD, fugitive emissions, to the extent quantifiable, must be included in subsequent applications. Examples of fugitive emissions include coal piles, and unpaved roads. If your facility is not subject to one of these categories, you do not need to list fugitive emissions. For each source of fugitive emissions, assign a number to identify the source. This can be any number, as long as it is different from the emission point (stack or vent) numbers and consistent with the numbers submitted in other permit applications, such as Title V (if your facility submitted a Title V application). The number should also be consistent with other construction permit applications, and be consistent within this application. If you have more fugitive emission sources than can fit on this form, attach a list to the form. Briefly describe the source, and provide the permit number if it has one. Fill the rate of potential to emit in **tons per year** for each pollutant.
8. Fill in the sum of all fugitive emissions for each pollutant.
9. Fill in the sum of the total plant emissions for each pollutant, including emission points and fugitive sources.

POLK COUNTY PUBLIC WORKS AIR QUALITY DIVISION AIR CONSTRUCTION PERMIT APPLICATION

Plot Plan Requirements:

PLOT PLAN REQUIREMENTS

A scaled plot plan of the entire plant is required. Attach the plot plan, labeled as "MI-1", with your permit application. The plot plan must show:

1. A scale bar and a north arrow; the scale must be of sufficient size as to allow the drawings to be converted to electronic format. 1 inch = 50 ft is usually sufficient.
2. Property lines;
3. Fence lines (if any);
4. Locations of all buildings **within the property lines**. Locations of tiers on multi-level buildings. Include the building and structure heights, and tier heights. A description of the buildings or structures is optional.
5. Locations of **ALL** emission points. Emission point symbols need not be to scale.
6. Locations of all structures **above ground level** and **within property lines**. Structures **above ground level** such as a gasoline storage tank, grain storage silos, etc., must be shown. Structures **at ground level**, such as concrete pads, paved parking lots, etc., should not be on the plot plan.
7. Locations of unpaved roads (need not be to scale) and area sources, such as coal piles must be shown, if fugitive emissions must be included in the permit application.
8. Highlight or mark the emission point that is the subject of this permit application so that it is clearly distinguished from other emission points or labels on the plot plan.

All buildings and structures above ground level and all emission points must be marked with identification numbers. The numbers MUST be consistent with all forms in the application.

- Note:
1. Auto CAD or equivalent computer-aid drawings on paper and on disk are preferred.
 2. Sketches are acceptable.
 3. Aerial photographs are not acceptable.

TABLE A: COMMON GREENHOUSE GASES

GAS	CHEMICAL FORMULA
Carbon dioxide	CO ₂
Methane	CH ₄
Nitrous Oxide	N ₂ O
Sulfur hexafluoride	SF ₆
Hydrofluorocarbons:	
HFC-23	CHF ₃
HFC-32	CH ₂ F ₂
HFC-41	CH ₃ F
HFC-125	CHF ₂ CF ₃
HFC-134	CHF ₂ CHF ₂
HFC-134a	CH ₂ FCF ₃
HFC-143	CHF ₂ CH ₂ F
HFC-143a	CH ₃ CF ₃
HFC-152	CH ₂ FCH ₂ F
HFC-152a	CH ₃ CHF ₂
HFC-161	CH ₃ CH ₂ F
HFC-227ea	CF ₃ CHF ₂ CF ₃
HFC-236cb	CH ₂ FCF ₂ CF ₃
HFC-236ea	CHF ₂ CHF ₂ CF ₃
HFC-236fa	CF ₃ CH ₂ CF ₃
HFC-245ca	CH ₂ FCF ₂ CHF ₂
HFC-245fa	CHF ₂ CH ₂ CF ₃
HFC-265mfc	CF ₃ CH ₂ CF ₂ CH ₃
HFC-365mfc	CH ₃ CF ₂ CH ₂ CF ₃
HFC-43-10mee	CF ₃ CHFCH ₂ CF ₂ CF ₃
Perfluorocarbons:	
Perfluoromethane (PFC-14)	CF ₄
Perfluoroethane (PFC-116)	C ₂ F ₆
Perfluoropropane (PFC-218)	C ₃ F ₈
Perfluorobutane (PFC-3-1-10)	C ₄ F ₁₀
Perfluorocyclobutane (PFC-318)	c-C ₄ F ₈
Perfluoropentane (PFC-4-1-12)	C ₅ F ₁₂
Nitrogen Trifluoride	NF ₃
Perfluorohexane (PFC-5-1-14)	C ₆ F ₁₄
(PFC-9-1-18)	C ₁₀ F ₁₈
Trifluoromethyl Sulphur Pentafluoride	SF ₅ CF ₃

* Senate File 485 defines a greenhouse gas as being carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

* This is not an all inclusive list and will be updated periodically.

* The chemical formulas were obtained from the Intergovernmental Panel on Climate Change (IPCC) Working Group 1: The Physical Basis of Climate Change, Section 2: Changes in Atmospheric Constituents and Radiative Forcing
The link is as follows: <http://ipcc-wg1.ucar.edu/wg1/wg1-report.html> (page 84 of 106).

s/air quality/program files/forms/constrprm