



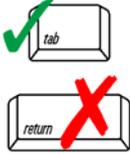
**Massachusetts Department of Environmental Protection**  
 Bureau of Waste Prevention – Air Quality  
**BWP AQ Sorbent/Reactant Injection Technology**

Transmittal Number \_\_\_\_\_

Submit with Form CPA-FUEL and/or CPA-PROCESS whenever construction, substantial reconstruction or alteration of a Sorbent/Reactant Injection Technology unit (e.g. carbon injection, lime injection) is proposed unless exempt per 310 CMR 7.02(2)(b).

Facility ID (if known) \_\_\_\_\_

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



**A. Inlet Operating Conditions**

1. Complete the tables below with information on inlet gas flow(s).

Table 1a			
Emission Unit No(s). Being Controlled	Average Inlet Gas Flow (Actual Cubic Feet Per Minute)	Inlet Temperature (Degrees Fahrenheit (°F))	Moisture Content in the Inlet (Pounds Per Minute)
<b>Totals:</b>			

Table 1b			
Provide the maximum gaseous emissions			
Emission Unit No(s). Being Controlled	Air Contaminant (e.g. VOC, HAP, PM)*	Air Contaminant Range Before Control (Pounds Per Hour)	Air Contaminant Range Before Control (Parts Per Million by Volume, Dry Basis)

\*VOC = volatile organic compounds, HAP = hazardous air pollutant, PM = particulate matter

2. If the emission unit being controlled is a combustion source:
  - a. What fuel is used?
 

Oil       Natural Gas       Coal  
 Other – Identify: \_\_\_\_\_

- b. What is the sulfur content of the fuel? \_\_\_\_\_  
 Weight Percent

3. If the emission unit being controlled is a process, describe the process: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



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**A. Inlet Operating Conditions** (continued)

4. Identify the pollutant(s) to be controlled:  Sulfur Dioxide  Hydrogen Chloride  
 Nitrogen Oxides  Mercury  
 Other – Identify: \_\_\_\_\_

**B. Specifications**

1. Manufacturer of Sorbent/Reactant Injection Technology Unit (S/RITU): \_\_\_\_\_  
 Company \_\_\_\_\_
2. Model Number (or Equivalent): \_\_\_\_\_  
 Number \_\_\_\_\_
3. Location of the S/RITU relative to other pieces of equipment:  High Dust  Low Dust  Tail End  
 Other – Identify: \_\_\_\_\_
4. Information about the sorbent or reactant used:  
 a. Description of the sorbent or reactant: \_\_\_\_\_  
 Description \_\_\_\_\_
- b. Operating temperature range of the S/RITU: from \_\_\_\_\_ to \_\_\_\_\_  
 Degrees Fahrenheit (°F) Degrees Fahrenheit (°F)
5. Are you proposing a by-pass stack?  Yes \*  No

\*If Yes, describe:  
 \_\_\_\_\_  
 \_\_\_\_\_

**C. Description of Sorbent(s) or Reactant(s)**

1. Type of sorbent or reactant proposed:  Aqueous Ammonia  Anhydrous Ammonia  Urea  
 Lime  Carbon  Other – Describe: \_\_\_\_\_
2. Form of sorbent or reactant proposed:  Liquid  Solid  Slurry  
 Other – Describe: \_\_\_\_\_
3. Method of reducing agent injection:  Dry Injection  Wet Injection  Gaseous Injection  
 Other – Describe: \_\_\_\_\_
4. Describe in detail how the concentration and usage rate of the sorbent or reactant agent were determined. Provide calculations on a separate attachment, if necessary.  
 \_\_\_\_\_  
 \_\_\_\_\_



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**C. Description of Sorbent(s) or Reactant(s)** (continued)

5. Describe the process controls for proper mixing of the sorbent or reactant agent in the flue gas stream. Continue on a separate attachment, if necessary.

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6. Describe storage of the sorbent or reactant agent, including details about any storage containment (e.g. silos, tanks, dimension of berms, evaporative mitigation). Continue on a separate attachment, if necessary.

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7. Is the sorbent or reactant subject to 42 U.S.C. 7401, Section 112(r)?  Yes \*  No

\*If Yes, attach a copy of the Risk Management Plan to this form.

8. If MassDEP determines that it is necessary, you MUST attach to this form a copy of an analysis of possible impacts to off-property locations from a catastrophic release of the sorbent or reactant, in comparison with American Industrial Hygiene Association Emergency Response Planning Guidelines. Contact the appropriate MassDEP regional office for additional information.

**D. Emissions Data**

1. Complete the table below to provide maximum air contaminant(s) emissions rates:

Table 2			
Air Contaminant	Air Contaminant Emission Range After Control (Pounds Per Hour)	Air Contaminant Emission Range After Control (Parts Per Million by Volume, Dry Basis)	Control Efficiency (Percent)

2. Explain how the above air contamination emission data were obtained. Attach appropriate calculations and documentation.

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**E. Drawing of Sorbent/Reactant Injection Technology Unit**

You must attach to this Form a schematic drawing of the proposed Sorbent/Reactant Injection Technology Unit. At a minimum, it must show the location(s) of the bypass damper(s) if applicable, bypass stack if applicable, and normal stack. Sampling ports for emissions testing must also be shown.

**Note:** You must notify the BWP Compliance & Enforcement Chief in the appropriate MassDEP regional office by telephone as soon as possible, within but no later than one (1) business day after you discover any upset or malfunction to facility equipment that results in excess emissions to the air and/or a condition of air pollution. You must submit written notice within seven (7) days thereafter.

**F. Monitoring, Record Keeping & Failure Notification**

1. Provide the manufacturer, make and model number of the proposed continuous emissions and opacity monitoring system:

\_\_\_\_\_

\_\_\_\_\_

2. Identify the air contaminants that will be continuously monitored and recorded (e.g. NO<sub>x</sub>, opacity).

\_\_\_\_\_

\_\_\_\_\_

3a. Indicate the type of any proposed parametric process monitors:  Inlet  Outlet  Feedback Systems

pH Monitoring  Other – Describe:

3b. Indicate the frequency of process monitor data recording:

\_\_\_\_\_

\_\_\_\_\_

4. Are there any alarms associated with the monitoring equipment?  Yes – Complete Table Below  No – Skip to 5

Table 3			
Operating Parameter Monitored	Describe Alarm Trigger	Monitoring Device or Alarm Type	Does the Alarm Initiate an Automated Response?
		<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other – Describe:	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Describe:
		<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other – Describe:	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Describe:
		<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other – Describe:	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Describe:



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**F. Monitoring, Record Keeping & Failure Notification** (continued)

5. Describe the operating conditions that are monitored to determine the sorbent or reactant agent injection rate:

\_\_\_\_\_  
\_\_\_\_\_

6. List and explain all of the operating and safety controls associated with the S/RITU system. Continue on a separate attachment, if necessary.

\_\_\_\_\_  
\_\_\_\_\_

7. List the S/RITU system emergency procedures to be used during system upsets. Continue on a separate attachment, if necessary.

\_\_\_\_\_  
\_\_\_\_\_

8. Describe the record keeping procedures to be used in identifying the cause, duration and resolution of each S/RITU system failure/emission(s) exceedance. Continue on a separate attachment, if necessary.

\_\_\_\_\_  
\_\_\_\_\_

9. How will the S/RITU system be designed and operated so as to allow for emissions testing using MassDEP-sanctioned test methods?

\_\_\_\_\_  
\_\_\_\_\_

**G. Standard Operating & Maintenance Procedures**

Attach to this form the standard operating and maintenance procedures for the proposed S/RITU system, as well as a list of the spare parts inventory that you will maintain on site, as recommended by the equipment vendor(s).

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**H. Professional Engineer’s Stamp**

The seal or stamp and signature of a Massachusetts Registered Professional Engineer (P.E.) must be entered below. Both the seal or stamp impression and the P.E. signature must be original. This is to certify that the information contained in this Form has been checked for accuracy, and that the design represents good air pollution control engineering practice.

\_\_\_\_\_  
 P.E. Name (Type or Print)

\_\_\_\_\_  
 P.E. Signature

\_\_\_\_\_  
 Position/Title

\_\_\_\_\_  
 Company

\_\_\_\_\_  
 Date (MM/DD/YYYY)

\_\_\_\_\_  
 P.E. Number



**I. Certification by Responsible Official**

The signature below provides the affirmative demonstration pursuant to 310 CMR 7.02(5)(c)8 that any facility(ies) in Massachusetts, owned or operated by the proponent for this project (or by an entity controlling, controlled by or under common control with such proponent) that is subject to 310 CMR 7.00, et seq., is in compliance with, or on a MassDEP approved compliance schedule to meet, all provisions of 310 CMR 7.00, et seq., and any plan approval, order, notice of noncompliance or permit issued thereunder. This Form must be signed by a Responsible Official working at the location of the proposed new or modified facility. Even if an agent has been designated to fill out this Form, the Responsible Official must sign it. (Refer to the definition given in 310 CMR 7.00.)

**I certify that I have personally examined the foregoing and am familiar with the information contained in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment.**

\_\_\_\_\_  
 Responsible Official Name (Type or Print)

\_\_\_\_\_  
 Responsible Official Signature

\_\_\_\_\_  
 Responsible Official Title

\_\_\_\_\_  
 Responsible Official Company/Organization Name

\_\_\_\_\_  
 Date (MM/DD/YYYY)

