Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality Control – Plan Approvals

BWP AQ 01 Limited Plan Approvals
BWP AQ 02 Non-Major Comprehensive Plan Approvals
BWP AQ 03 Major Comprehensive Plan Approvals
Instructions and Supporting Materials

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Introduction

MassDEP *Permit Applications*, as well as *Instructions & Support Materials*, are available for download from the MassDEP Web site at mass.gov/dep in two file formats: Microsoft Word™ and Adobe Acrobat PDF™. Either format allows documents to be printed.

Instructions & Support Materials files in Microsoft Word™ format contain a series of documents that provide guidance on how to prepare a permit application. Although we recommend that you print out the entire package, you may choose to print specific documents by selecting the appropriate page numbers for printing.

Permit Applications in Microsoft Word™ format must be downloaded separately. Users with Microsoft Word™ 97 or later may complete these forms electronically.

Permitting packages in Adobe Acrobat PDF™ format combine *Permit Applications* and *Instructions & Support Materials* in a single document. Adobe Acrobat PDF™ files may only be viewed and printed without alteration. *Permit Applications* in this format may not be completed electronically.

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality Control – Plan Approvals

BWP AQ 01 Limited Plan Approvals
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BWP AQ 03 Major Comprehensive Plan Approvals
Permit Fact Sheet

1. What is the purpose of these plan approvals?

The purpose of issuing these permits is to protect public health, welfare and the environment by limiting air contamination. A plan application is required of an owner or operator where the construction, substantial reconstruction, or alteration of the facility has the potential to cause or contribute to a condition of air pollution.

Regulations 310 CMR 7.02(4) and 7.02(5) provide for a Limited Plan Approval and a Comprehensive Plan Approval. Legislative authority for these regulations is stated in MGL Chapter 111, section 142 A - J.

2. Who must apply?

For specific information on when an application must be submitted for an air quality plan approval, refer to 310 CMR 7.02(4) and 7.02 (5). The plan approval letter and the application materials submitted to the Department become the approved plan approval. Those who wish to develop the following types of projects must apply:

a. projects with an increase in potential emissions, excluding products of combustion, greater than the thresholds;
b. a fuel utilization facility with an energy input capacity greater than the thresholds;
c. an incinerator;
d. projects that require a Prevention of Significant Deterioration (PSD) permit (as defined in 40 CFR 52.21. Please note that as a result of MassDEP's decision to return implementation of the PSD program to U.S. EPA, effective as of March 3, 2003, the PSD permit must be obtained from the U.S. EPA);
e. projects that require an approval pursuant to 310 CMR 7.00 Appendix A;
f. a project which would contravene a Department approval;
g. any project so required by the Department.

3. What other requirements should be considered when applying for these plan approvals?

- Must the project receive a site assignment pursuant to MGL c. 111 sec. 150A, c. 111 sec. 150B or c. 21D?
- Must the project be approved by the Energy Facilities Siting Council (EFSC) (MGL c. 164, 980 CMR 1.00-11.00)?
- Does the project meet the criteria established in 310 CMR 7.02(6) Aggregating Emissions?
- Is the project subject to New Source Performance Standards (40 CFR 60) or National Emission Standards for Hazardous Air Pollutants (40 CFR 61) or Maximum Achievable Control Technology (40 CFR 63)?
- If the project is classified as a major CPA, ambient air quality modeling may be required to be submitted with the application.
- If the project is required to be approved under 310 CMR 7.00 Appendix A, the facility will be required to obtain offset emissions, and to demonstrate compliance with the Lowest Achievable Emission Rate (LAER) requirement.
- The Department cannot issue an approval until the project has been issued any required site assignments.

Note: Permits of this type may require MEPA review. Please carefully examine 301 CMR 11.00, the MEPA Regulations, to determine if your project exceeds the MEPA review thresholds. For more information contact the MEPA Unit of the Executive Office of Environmental Affairs (100 Cambridge Street, Boston, MA 02202; (617-727-5830). MassDEP cannot complete technical review of the permit application until the MEPA process has been concluded. Copies of MEPA filings (with reference to any applicable Transmittal numbers)

should be sent to the appropriate program offices in Boston and the MEPA Coordinator in the appropriate Regional Office. Find your region: http://mass.gov/dep/about/region/findyour.htm

Note: These additional requirements are intended to serve as a guide to the applicant. It does not necessarily include all additional requirements.

4. What is the application fee?

BWP AQ 01	Limited Plan Approval	$525.00
BWP AQ 02	Non-Major Comprehensive Plan Approval	$1,930
BWP AQ 03	Major Comprehensive Plan Approval	$19,780

5. What is the Primary Permit Location? What is the Reserve Copy Location?

PRIMARY PERMIT LOCATION	RESERVE COPY LOCATION
Department of Environmental Protection	Department of Environmental Protection
_____* Regional Office	_____* Regional Office
Air Quality Control	Air Quality Control

* Find your region: http://mass.gov/dep/about/region/findyour.htm

As indicated above, all completed application packages should be submitted in duplicate to the appropriate regional office for review and approval (one primary copy, one reserve copy). When approved, the second copy of the permit application is stamped and returned so that the applicant and the Department have identical copies of the approved submittal. If the application must go through a federally mandated public comment period, pursuant to 310 CMR 7.00 Appendix A (Non-attainment Review), a new copy of the entire application (with any revisions) will be required at the time of the public comment period for submittal to EPA.

The contents of the Limited Plan Approval (LPA) and the Comprehensive Plan Approval (CPA) are given below. The application form to be used is determined by: (1) reviewing the regulation to first determine whether an LPA or CPA must be filed (see explanation above under "Who must apply?") and (2) the category of emission source. Application forms have been developed for several categories of emission source: fuel burning, industrial process, solvent cleaning, etc.

The following application forms are used when filing for BWP AQ 01, BWP AQ 02, or BWP AQ 03:

Limited Plan Applications

- BWP AQ 01-A Limited Plan Approval - Fuel Utilization Facility
- BWP AQ 01-B Limited Plan Approval - Non Fuel Emissions

Comprehensive Plan Applications (CPA)

- BWP AQ 02 & BWP AQ 03 - Comprehensive Plan Approval Project Summary

CPA must also include one of the following:

- BWP AQ CPA-1 Fuel Utilization Facility
- BWP AQ CPA-2 Burner Replacement
- BWP AQ CPA-3 Non Fuel Emissions
- BWP AQ CPA-4 Incinerators
- BWP AQ CPA-5 Solvent Metal Cleaners

The following Supplemental Forms, where applicable, must also be submitted with a CPA:

Supplemental Forms for Process:

- BWP AQ SFP-1 Paint Spraying and Surface Coating
- BWP AQ SFP-3 Survey of Noise Potential

Supplemental Forms for Air Pollution Control Equipment:

- BWP AQ SFC-1 Dry Air Filters (Fabric, Bags, Cartridges, etc)
- BWP AQ SFC-2 Cyclonic or Inertial Separators
- BWP AQ SFC-3 Wet Collection Equipment (Scrubbers)
- BWP AQ SFC-4 Adsorption Equipment
- BWP AQ SFC-5 Afterburners
- BWP AQ SFC-6 Electrostatic Precipitator

The application forms list detailed, specific information, which is required to accompany the application.

6. What are the timelines?

As of July 1, 1992 the timelines are:

	AC	T1	T2*	PC
BWP AQ 01	30	60	60	no public comment
BWP AQ 02	30	90	90	no public comment
BWP AQ 03	30	160	160	

*(A second technical review will only be conducted if necessary).

7. What is the annual compliance fee?

The annual compliance assurance fee is dependent on the facility wide potential emissions. Please consult 310 CMR 4.03 (Table 4.03) for more information. If you fail to pay the annual compliance fee your permit could be suspended or revoked.

8. How long are these plan approvals in effect?

The plan approval is in effect until the project permitted by this action is substantially reconstructed or altered, at which time a new approval is required.

9. How can I avoid the most common mistakes made in applying for this plan approval?

a. Answer all questions on the application form and indicate "N/A" (not applicable) where appropriate.
b. Submit two copies of the application to the regional office for review.
c. Make sure a Professional Engineer registered in Massachusetts signs the application (Comprehensive Plan Application - 310 CMR 7.02(5)(c)) and provides a registration number and field of concentration.
d. Submit a "sign off" from any other agency necessary prior to the submittal of an application. For example, the Massachusetts Historical Commission, MEPA, MDPU, EFSC, etc.
e. Submit fee and one copy of the MassDEP Transmittal Form to:
Department of Environmental Protection
P. O. Box 4062
Boston, MA 02211.

10. What are the regulations that apply to these plan approvals? Where can I get copies?

These regulations include, but are not limited to:

a. Air Pollution Control Regulations, 310 CMR 6.00 to 8.00.
b. Timely Action and Fee Provisions, 310 CMR 4.00.
c. Administrative Penalty Regulations, 310 CMR 5.00.

These may be purchased at:

State House Bookstore	State House West Bookstore
Room 116	436 Dwight Street
Boston, MA 02133	Springfield, MA 01103
617-727-2834	413-784-1376

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality Control – Plan Approvals

BWP AQ 01 Limited Plan Approvals
BWP AQ 02 Non-Major Comprehensive Plan Approvals
BWP AQ 03 Major Comprehensive Plan Approvals
Application Completeness Checklist

☐ The MassDEP Transmittal Form is completed: http://mass.gov/dep/service/online/trasmfrm.shtml

☐ All applicable questions have been completed or N/A has been inserted where appropriate..

☐ A signature of the appropriate responsible official has been included even if an agent has been hired to complete the application. See definitions in 310 CMR 7.00.

☐ When required to submit an ENF and/or an EIR, a copy of the MEPA "sign off" is attached (see MEPA regulations 301 CMR 11.00). MassDEP will not issue the permit until MEPA certification is obtained..

Additional Checklist for BWP AQ 02, BWP AQ 03:

☐ All information listed in Section B of the comprehensive plan approval application is included in the package.

☐ A Professional Engineer registered in Massachusetts has attested to the accuracy of the submitted information, signed the application, and attached his seal.

☐ If required, a copy of the Energy Facility Siting Council (EFSC) letter approving the project is attached. MassDEP will not issue the permit until EFSC has approved the project.

To submit the application package:

☐ Checklist items have been completed.

☐ Send two copies of the application package along with two copies of the MassDEP Transmittal form to:

Department of Environmental Protection
_____* Regional Office
Air Quality Control

*Find your region: http://mass.gov/dep/about/region/findyour.htm

☐ Send fee of:

$525 for BWP AQ 01;
$1,930 for BWP AQ 02;
$19,780 for BWP AQ 03;

in the form of check or money order made payable to Commonwealth of Massachusetts, along with one copy of the MassDEP Transmittal Form to:

Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality Control

BWP AQ 01-A

Limited Plan Approval for Fuel Utilization Facility

Transmittal Number

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. Instructions

[See Regulations 310 CMR 7.02 (4) (a) 2]

Any fuel utilization facility (FUF), excluding stationary combustion turbines and stationary reciprocating engines, where the portion of the FUF being constructed, substantially reconstructed or alter falls within one of the categories given below, requires approval of a limited application.

	Fuel of Use Having Highest % of Sulfur	Maximum & of Sulfur (by weight)	Energy Input Capacity (btu per hour)	Equivalent Fuel Firing Rates
Category 1	Natural gas or propane	Not applicable	≥ 10,000,000 but < 40,000,000	≥ 10,000 ft^3/hr but < 40,000 ft^3/hr
Category 2	Distillate oil	≤ 0.3%	≥ 10,000,000 but < 30,000,000	≥ 71 gal/hr but < 214 gal/hr
Category 3	Residual oil	≤ 0.5%	≥ 10,000,000 but < 20,000,000	≥ 70 gal/hr but < 141 gal/hr
Category 4	Residual oil	≤ 01.0%	≥ 5,000,000 but < 10,000,000	≥ 34 gal/hr but < 68 gal/h
Category 5	Used oil fuel	see 310 CMR 7.05 (8)	≥ 3,000,000 but < 10,000,000	≥ 25 gal/hr but < 83 gal/hr

The completed form should be sent (in duplicate) to the appropriate Regional Office of the Department of Environmental Protection. The Department will return a stamped approved copy, if approval is deemed appropriate.

B. Description of New or Modified Fuel Utilization Facility

1. _____
Facility Name

Street Address _____ City _____

State _____ Zip Code _____

2. If the proposed project modifying previously approved equipment? ☐ Yes ☐ No

If "Yes", list the previously issued air quality approval(s) for this equipment.

Application Number	Approval Date

3. Give a brief description of what is being done:

_____

_____

B. Description of New or Modified Fuel Utilization Facility (cont.)

Make & Model Number of Boiler or Furnace †	Is boiler or Furnace New (N) or Modified (M)	Make & Model Number of Burners(s) ††	Max Burner Firing Rate [Give Units]
Unit 1	☐ N ☐ M		
Unit 2	☐ N ☐ M		
Unit 3	☐ N ☐ M		

† If undetermined at time of application submittal, indicate probable unit "or equivalent". Specific make and model must be provided prior to final approval.

†† Rotary cup burners using natural draft are not allowable.

	Max Energy Input Rating* (btu per hour)	**Primary Fuel of Use**	**Max % Sulfur Primary Fuel****	**Back-up Fuel of Use**	**Max % of Sulfur Back-up Fuel**	**Stack/Vent Name/Number**	**Stack Height (feet)**	**Stack Hgt. Above Roof (ft.)**
Unit 1								
Unit 2								
Unit 3								

* To be calculated by multiplying maximum burner firing rate by the following higher heating values: 1000 Btu/ft^3 of natural gas; 140,000 Btu/gal of distillate oil; 142,000 Btu/gal of 0.5% sulfur oil; 147,000 Btu/gal of 1.0% sulfur oil; and 120,000 Btu/gal of used oil fuel.

** See Regulation 310 CMR 7.05 for Department restrictions on the sulfur contents of various oil fuels.

C. Miscellaneous

		Yes	No
1.	Is this project subject to:		
a.	Appendix A – Nonattainment Review, 310 CMR 7.00?	☐	☐
b.	Prevention of Significant Deterioration of Permit (PSD), 40 CFR 52.21? Note: PSD applications are filed with the U.S. Environmental Protection Agency (EPA).	☐	☐
c.	New Source Performance Standards, 40 CFR 60?	☐	☐
	If yes, which subpart		
2.	Was netting used to avoid review under 3.10 CMR 7.00 Appendix A or 40 CFR 52.21? Note: PSD questions should be directed to EPA.	☐	☐

D. Certification

The signature below provides the affirmative demonstration pursuant to 310 CMR 7.02(3) 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 Department 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 there under. 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 examined the responses provided herein and that to the best of my knowledge they are true and complete.

The space below is reserved for the placement of the Department Approval Stamp:

Print Name

Authorized Signature

Personal Title

Representing

Date

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ 01-B

Limited Plan Approval • Application for Non-Fuel Emissions

Transmittal Number

Date Received

INSTRUCTIONS

This form is for approval of construction, substantial reconstruction or alteration of any facility which would result in an increase in potential emissions greater than or equal to one ton and less than five tons per 12 month time period of:
a. any single criteria contaminant (SO_X, NO_X, lead, CO, Ozone, Particulates or VOCs);
or
b. any single non-criteria air contaminant.

This form is not to be used for combustion sources (see form BWP AQ 01-A).

A. Description of Project

1. Facility Name _____ Location _____

2. General description of construction, substantial reconstruction, or alteration and exact location within the facility.

Manufacturer of affected process equipment* _____ Estimated Maximum Operating Schedule

Model number* _____ Hour/Day

Estimated Instillation Date _____ Days/Week

Normal Hourly Production Rate (as % Maximum Hourly Production Rate) _____ Weeks/Year

3. Is the proposed project modifying previously approved equipment? ☐ Yes ☐ No

If "Yes", list the previously issued air quality approval(s) for this equipment.

Application Number	Approval Date

For DEP use only

Application No

Date Received

Date Assigned

Date 1st Deficiency

Date 1st Response

Reviewer

Permit:
Approved
Terminated

Decision Date

CPA Required:

Yes No

B. Air Pollution Control Equipment

Type of Air Pollution Control Equipment

Make* _____ Model Number* _____

Brief Description

* If undetermined at time of application, indicate probable unit "or equliviant". Specific make and model must be provided prior to final approval.

C. Potential Annual Emissions

POTENTIAL EMISSIONS are calculated from the maximum capacity of the equipment to emit pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the equipment to emit a pollutant, including air pollution control equipment, restriction on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of its design only if the limitation is specifically stated in (a) plan approval(s) or if the facility proposed to incorporate such a restriction into this current Plan Approval. Fugitive emissions, to the extent quantifiable, are included in determining the potential emissions. Unless otherwise documented, potential emissions shall be based on 8,760 hours per year of source operation.

Provide the potential emissions for each pollutant in this section and show calculations, assumptions and restrictions used in section D.

	Description of air contamination source	Description of control equipment	Control Efficiency (percent by weight)	Pounds per year (after control) Particulate	Pounds per year (after control) SO_X	Pounds per year (after control) NO_X
1.						
2.						
3.						
4.						
Total potential annual emissions after control						

	Pounds per year (after control) VOC	Pounds per year (after control) HOC	Pounds per year (after control) Lead	Pounds per year (after control) other pollutants (give chemical name)	Stack or Vent Number Circle new (N) or Modified (M)
1. (continued)					☐ N ☐ M
2. (continued)					☐ N ☐ M
3. (continued)					☐ N ☐ M
4. (continued)					☐ N ☐ M
Total potential annual emissions after control					

D. Detailed Emission Calculations

Use the space provided below to show the assumptions and the arithmetic used to calculate the Potential Annual Emissions you have estimated for this facility, and how the increase of less then five tons/year was calculated. (Attach separate sheets if necessary.)

E. Miscellaneous

		Yes	No
1.	Is this project subject to:		
	a. Appendix A – Nonattainment review 310 CMR 7.00?	☐	☐
	b. Prevention of significant Deterioration Permit (PSD), 40 CFR 52.21? Note: PSD applications are filed with the U.S. Environmental Protection Agency (EPA).	☐	☐
	c. New Source Performance Standards, 40 CFR 60?	☐	☐
	If yes, which part		
	d. National Emissions Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR 61?	☐	☐
	If yes, which subpart		
	e. Maximum Achievable Control Technology (MACT), 40 CFR 63?	☐	☐
	If yes, which subpart		
2.	Was netting used to avoid review under 310 CMR 7.00 Appendix A or CFR 52.21? Note: PSD questions should be directed to EPA.	☐	☐
3.	Does the proposed project meet the requirements of Best Available Control Technology (BACT), as required?	☐	☐

Brief description

F. Certification

The signature below provides the affirmative demonstration pursuant to 310 CMR 7.02(3) 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 Department 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 have examined the responses provided herein and that to the best of my knowledge they are true and complete.

Print name

Authorized signature

Position title

Representing

Date

The space below is reserved for the placement of the Department Approval Stamp

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ 02 Non-Major Comprehensive Plan Approval
BWP AQ 03 Major Comprehensive Plan Approval

Comprehensive Plan Approval Project Summary Application

Transmittal Number

Facility ID (if known)

A. Facility Data

INSTRUCTIONS

This form is to be completed when filing for a comprehensive Plan Approval (CPA). A CPA is required for projects exceeding the thresholds for that of a Limited Plan Approval (LPA) and in other cases as determined by the Department. When filing a CPA, one or more of the following forms is also required according to the type of project:
BWP AQ CPA-1 to BWP AQ CPA-5 for equipment;
BWP AQ SFP-1 to BWP AQ SFP-5 for VOC application and noise;
BWP AQ SFC-1 to BWP AQ SFC-6 for pollution control equipment.

1. _____
Facility Name

_____
Location

2. Is the project for a new facility? ☐ Yes ☐ No

3. Previously approved? ☐ Yes ☐ No

If yes, list the previously issued air quality approval(s) for this process and associated emission limits in the table provided.

Application Number	Approval Date

4. Which permit category are you applying for? ☐ BPW AQ 02 ☐ BWP AQ O3

B. Applicability

1. POTENTIAL EMISSIONS are to be calculated from the maximum capacity of the equipment to emit pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the equipment to emit a pollutant, including air pollution control equipment, restriction on hours of operation, or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation is specifically stated in (a) plan approval(s) or if the facility proposes to incorporate such a restriction into this current plan approval. Fugitive emissions, to the extent quantifiable, are included in determining the potential emissions. Unless otherwise documented, potential emissions shall be based on 8,760 hours per year operation of source.

   Current Potential Emissions means the potential emissions for the entire facility as it currently exists. If this is for a new facility, then enter N/A in this column.

   Actual Baseline Emissions means the highest actual emissions for the facility in either of the previous two years. If this is for a new facility, then enter N/A in this column.

   Proposed Potential Emissions means the potential emissions for this proposed project alone.

Transmittal Number

Facility ID (if known)

B. Applicability (cont.)

Air Containment*	Current Potential Emissions (TPY)** (after control)	Actual Baseline Emissions (TPY)	Proposed Potential Emissions (TPY) (after control)
Particulate			
SO_x			
NO_x			
VOC			
HOC			
Lead			
CO			
HAP			
Other			

*Complete only for air quality contaminants that will be affected by this project.
**TPY = tons per year

2. Is this project subject to:

- 310 CMR 7.00 Appendix A- Nonattainment Review? ☐ Yes ☐ No

  If yes, also complete section C- Nonattainment Review.

- Was netting used to avoid applicability? ☐ Yes ☐ No

  If yes, also complete Section III – Nonattainment Review

- Prevention of Significant Deterioration Permit (PSD) 40 CFR 52.21? ☐ Yes ☐ No
  Note: PSD applications are filed with the U.S. Environmental Protection Agency (EPA).
  If yes, also complete section D – PSD.

- Was netting used to prevent PSD? ☐ Yes ☐ No
  Note: PSD questions should be directed to EPA.
  If yes, also complete section D – PSD.

- New Source Performance Standards (40 CFR 60)? ☐ Yes ☐ No

  If yes, which subpart?

B. Applicability (cont.)

- National Emissions Standards for Hazardous Air Pollutants (NESHAPS) – 40 CFR 61:

☐ Yes ☐ No _____ If yes, which subpart?

- Maximum Achievable Control Technology (MACT), 40 CFR 63?

☐ Yes ☐ No _____ If yes, which subpart?

C. Nonattainment Review

This section must be completed only if the construction or modification occurring at the facility is subject to 310 CMR 7.00 Appendix A (Nonatttainment Review) ***or*** would be subject to Nonatttainment Review if netting did not occur.

Offsets and **Netting**

1. If the proposed project would be subject to 310 CMR 7.0 Appendix A - Nonattainment Review in the absence of netting, or if emission reduction credits are used as offsets as part of the application, what is being shutdown, curtailed or further controlled to obtain the emission reduction credit (netting is not allowed to avoid review under 310 CMR 7.02):

   Emission reduction credits must be part of an enforceable plan approval to be used for either "netting out" or "offsetting emission increases".

   _____

   _____

   _____

2. For the source of emission credits, complete the following table:

Air Containment	Actual Baseline Emissions (TPY)	New Potential Emissions (TPY) (after control)	Emission Reduction Credit (TPY)

Actual Baseline Emissions means the average actual emissions for the source of emission credits in the previous two years.

New Potential Emissions means the potential emissions for the source of emission credits after project completion.

Emission Reduction Credit means the difference of Actual Baseline and New Potential Emissions.

Transmittal Number

Facility ID (if known)

C. Nonattainment Review (cont.)

3. If emission reduction credits come from a facility other than where the construction or modification occurs, provide the name and location of the facility:

D. Affirmative Demonstration of Compliance

The signature below provides the affirmative demonstration pursuant to 310 CMR 7.02 (3) 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 Department 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.)

Certification: I certify that I have examined the responses provided herein and that to the best of my knowledge they are true and complete.

Print name

Signature of responsible official

Position / title

Representing

Date

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ CPA-1 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Fuel Utilization Facilities

Transmittal Number

Facility ID (if known)

A. Applicability

This form is to be used to apply for approval to construct, substantially reconstruct or alter a fuel utilization facility, such as but not limited to a boiler, oven, space heaters, fuel-burning engines, turbines, or other stationary fuel burning devices, subject to 310 CMR 7.02 (3).

Please refer to 310 CMR 7.02 (5)(a). Simple burner replacement on existing units having an energy input capacity less than 100,000,000 Btu per hour may submit form BWP-AQ CPA-2, Comprehensive Plan Application for Burner Replacement.

B. Materials that Constitute a Comprehensive Plan Approval Application

Proposed projects that are subject to the Comprehensive Plan Approval Application requirements for fuel utilization facilities must submit the following items to the appropriate Regional Office for review and approval.

☐ **Manufacturer's Specifications** and Brochures

The Following Item Must be Submitted in Duplicate and Must Bear the Seal And Signature of a Massachusetts Registered Professional Engineer

☐ **CPA forms** should reflect both existing units and the new or modified units at the facility.

☐ **Supplemental forms** for associated air pollution control equipment – If such equipment is present, the appropriate form must be included.

☐ **Standard Operating Procedure** – Clear, logical, sequential itemization of the manner in which the equipment is to be operated (normal and upset modes).

☐ **Standard Maintenance Procedure** – Must describe the scheduling of routine maintenance and equipment adjustments.

☐ **Plot Plan** – Scaled drawing indicating the outlines of the structures owned by the landlord of the building containing this project, as well as the locations of significant nearby structures and terrain features. Indicate the heights of the structures and the location and height of the stack(s) above ground level.

☐ **Topographic Map** – United States Geodetic Survey (USGS) map, or equivalent, showing the topographic contours for a distance of 1500 feet beyond the boundary lines in every direction.

☐ **Roof Plan** – Scaled drawing indicating the locations of the stack(s) and all fresh air intakes, windows, and doors. (This can be part of **Plot Plan**.)

☐ **Elevation Plan** – Scaled drawing locating the stack(s), fresh air intakes, windows, and doors.

☐ **Breech/Stack Plan** – Scaled drawing to show the location of sampling ports, barometric dampers, and opacity monitor(s).

☐ **Calculations** – Detailed calculation sheets showing the manner in which the pertinent quantitative data was determined.

☐ **Potential Emissions** – Detailed listing of proposed restrictions limiting potential emissions (see section E).

☐ **Miscellaneous** – The Department may require other materials if it considers them necessary to the plan's review. For example, modeling studies may be required, or monitoring data, or a noise survey. These special items are requested on the more complex or larger applications.

☐ **BACT Analysis**

C. Existing and Modified or New Combustion Unit(s) Data

Include all fuel utilization facilities at this address; attach another sheet when necessary. In this and subsequent sections, "Existing" refers to those combustion units that will remain in use at the facility, but will be unchanged by this project.

		Unit 1	Unit 2	Unit 3	Unit 4
1.	Is Unit Existing, to be Modified, or New?				
2.	Description (boiler, oven, space heater, diesel, etc.)				
3.	Manufacturer*				
4.	Model number*				
5.	Output rating (at 212° F) (indicate if Btu/hr or lbs. of steam/hr)				
6.	Input rating (in Btu per hour)				
7.	For boilers, indicate the steam usage breakdown				
	a. % of steam for space heating use				
	b. % of steam for air conditioning use				
	c. % of steam for hot water or process use				
8.	For boilers, indicate if WT, FT, CIS, HRT				
9.	Boiler operating pressure [psigl]				
10.	Thermal efficiency at 100% rating				
11.	Maximum breaching temperature (°F)				
12.	Furnace volume (if applicable)				
13.	Grate area (if applicable)				
14.	Indicate how combustion air is supplied to the boiler room				

*If undetermined at time of application, indicate probable unit "or equivalent". Specific make and model must be provided prior to final approval.

C. Existing and Modified or New Combustion Unit(s) Data (cont.)

15. Describe combustion unit cleaning method	Unit 1	Unit 2	Unit 3	Unit 4
a. Air blown (yes or no)				
b. Steam blown (yes or no)				
c. Brushed and vacuumed (yes or no)				
d. Other (describe)				
e. Frequency of cleaning				

D. Fuel Data

	Unit 1	Unit 2	Unit 3	Unit 4
1. Primary fuel				
a. Type and grade				
b. Sulfur content				
c. Gross heating value (give units)				
d. Ash content (% by dry weight)				
e. Proposed fuel supplier				
2. Standby or auxiliary fuel				
a. Type and grade				
b. Sulfur content				
c. Gross heating value (give units)				
d. Ash content (% by dry weight)				
e. Proposed fuel supplier:				
3. Fuel additive				
a. Manufacturer				
b. Additive name				
c. Purpose of additive				

E. Potential Emissions

POTENTIAL EMISSIONS are used to determine applicability to air pollution control regulations and compliance fees. Unless otherwise restricted, potential emissions are calculated from the maximum operational capacity of the equipment as described in section C operated 8,760 hours per year. If you wish to limit potential emissions you must complete this section; this will be treated as part of the facility design and the limitation will be specifically stated in this Plan Approval.

1. In order to issue a permit limiting the facility's potential emissions, the Department must have a method to monitor compliance with the restriction. In other words, an enforceable permit condition must be available to the Department. The following questions require the facility to set a limit on the maximum amount of fuel combusted (per month and per year) and therefore, the maximum amount of emissions possible. This will become the means to monitor and enforce the restriction. Alternative methods of restricting potential emissions will be evaluated on a case-by-case basis and the applicant should contact the Department before proposing such alternatives. Any such alternative method must be consistent with the U.S. EPA's June 13, 1989 guidance entitled, "Guidance on Limiting Potential to Emit in New Source Permitting" (Copies of this guidance are available from DEP offices).

Proposed Fuel Restriction

Enter amount and units (gallons, cubic feet, etc.)

	Unit 1	Unit 2	Unit 3	Unit 4	Total
a. Maximum per month:					
primary fuel	_____	_____	_____	_____	_____
auxiliary	_____	_____	_____	_____	_____
b. Maximum per year:					
primary fuel	_____	_____	_____	_____	_____
auxiliary fuel	_____	_____	_____	_____	_____

2. Describe any other physical or operational limitation on the capacity of the equipment to emit a pollutant, including air pollution control equipment, restriction on hours of operation, etc., that will be used to restrict emissions:

_____

_____

_____

_____

_____

F. Oil Viscosity Control Data

1. For #4, #5, or #6 fuel oil, indicate below the method used to maintain proper atomizing viscosity [e.g., oil tank heater, oil line heater, pre-heater type, or other (such as room heat)]:

_____

_____

_____

2. Description of Oil Viscosity Controller (if applicable):

_____
a. Manufacturer

_____
b. Model number

_____
c. Recorder?

G. Burner Data

For fuel dependant parameters, assume primary fuel is being used.

	Unit 1	Unit 2	Unit 3	Unit 4
1. Burner manufacturer				
2. Burner model number				
3. Type of atomization (steam, air, press, mesh, rotary cup)				
4. Number of burners in each				
5. Max fuel firing rate (all burners firing) (Gal/hr, lbs./hr, cubic ft per hr, etc.)				
6. If oil, temperature and viscosity at max rating				
7. Normal fuel firing rate (indicate units)				
8. Max theoretical air requirement (scfm)				
9. Percent excess air at 100% rating				
10. Turndown ratio				

11. _____
Burner modulation control (on/off, low/high fire, full automatic, manual)

12. _____
Main burner flame ignition method (electric spark, auto gas pilot, hand held torch, other)

H. Combustion Unit Operating Schedule

				Unit 1	Unit 2	Unit 3	Unit 4
1.	Winter schedule	hrs/days	days/week				
2.	Spring schedule	hrs/days	days/week				
3.	Summer schedule	hrs/days	days/week				
4.	Autumn schedule	hrs/days	days/week				

I. Noise Suppression Equipment

The installation of some fuel burning units can cause a noise nuisance if precautions are not taken. This is especially true for diesel or turbine generators. Form BWP AQ SFP-3 must accompany the Plan Application for those units requiring noise suppression.

		Unit 1	Unit 2	Unit 3	Unit 4
1.	Manufacturer of silencer				
2.	Model Number				

J. Auxiliary Equipment

1. Opacity Monitoring Equipment	Unit 1	Unit 2	Unit 3	Unit 4
a. Manufacturer				
b. Model number				
c. Lens cleaning method				
d. Alarm type				
e. Recorder manufacturer				
f. Recorder model number				

The above device is required on all stacks serving equipment rated at an energy input capacity of 40,000,000 Btu per hour or greater which burn liquid or solid fuel. Other facilities, may also be required to install such equipment if the Department determines that it is necessary (310 CMR 7.04 (2)).

2. Boiler Draft

a. Type (forced, included, or natural)				
b. Method used to control draft				

J. Auxiliary Equipment (cont.)

3. **Air Pollution Control Equipment**

   (Applicable supplemental forms must be submitted for these, see instructions)

   a. Type (scrubber, ESP, cyclone, etc.) _____ _____ _____ _____

   b. Manufacturer _____ _____ _____ _____

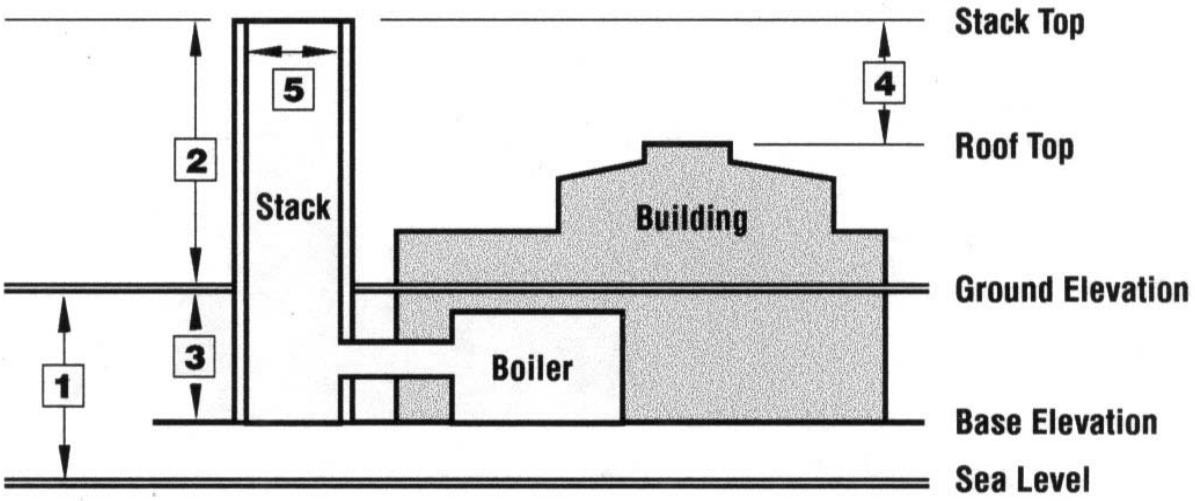
   c. Model number _____ _____ _____ _____

4. Does this application represent Best Available Control Technology (BACT) as required in Regulation 310 CMR 7.02(3)(j) 6?

   a. ☐ Yes ☐ No

   b. Describe _____

K. Existing and New or Modified Stack Data



Questions for the above diagram

	Stack 1	Stack 2	Stack3	Stack 4
1. Ht. of ground above sea level (arrow 1)	ft	ft	ft	ft
2. Ht. of stack top above ground (arrow 2)	ft	ft	ft	ft
3. Ht. of ground above stack base (arrow 3)	ft	ft	ft	ft
4. Ht. of stack top above roof (arrow 4)	ft	ft	ft	ft

K. Existing and New or Modified Stack Data (cont.)

	Stack 1	Stack 2	Stack3	Stack 4
5. Stack exit size (inside) (arrow 5)	in	in	in	ft
6. Is stack existing, new, or modified?				
7. Which combustion units on which stacks?				
8. Inside shell material				
9. Outside shell material				
10. Max gas exit velocity				
11. Min gas exit velocity				
12. Maximum stack gas exit temperature (^{0}F)				
13. Maximum stack gas volume (acfm)				
14. Type of rain protection				

NOTE: The rain protection device should be of such a design as to allow the unimpeded escape of the stack gases. “Rain Hats” are prohibited.

L. Energy Conservation Devices

	Unit 1	Unit 2	Unit 3	Unit 4
1. Feed water economizer (yes or no)	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
2. Combustion air preheater (yes or no)	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
3. Blowdown heat recovery (yes or no)	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
4. Oxygen trim control (yes or no)	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
5. Other (describe)	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N

M. Miscellaneous

1. _____
Standard Industrial Classification (SIC) code(s) for this facility?

2. _____
Number of employees at this facility?

3. _____
Is waste or recycled oil burned at this facility?

4. _____
If numbers 4, 5, 6, fuel oil is used, identify who removes and disposes of the fuel oil sludge.

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ CPA-1 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Fuel Utilization Facilities

Transmittal Number

Facility ID (if known)

N. CPA Preparer

1. Person who complied the plans applications materials
2. Representing
3. Address
4. Telephone number
5. Date completed

O. Certifications

The seal and signature of a Massachusetts Registered Professional Engineer must be entered at right, and they must be the original seal impression or stamp and the original signature of the engineer. 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.

Print name

Authorized signature

Position/title

Representing

Date

PE number

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ CPA-2 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Burner Replacement

Transmittal Number

Facility ID (if known)

A. Applicability

This form is intended to simplify the comprehensive plans application process for those projects in which the only modification is the replacement of existing burners having an energy input capacity of less than 100,000,000 Btu per hour, with new burners of the same capacity or smaller which will burn either the same fuel or a cleaner fuel.
The normal requirement for plot plans, roof plans, standard operating procedures etc., are waived for these modifications, as is the certification by a Professional Engineer registered in Massachusetts.

B. Project Description

1. How many burners are being replaced?

   Number of burners

2. Installer:

   Name | Telephone

   Address | License number

3. How many combustion units will be modified?

   Number of units

4. Number of employees at this facility:

5. Appropriate Standard Industrial Classification (SIC) code(s) for this facility:

C. Description of Combustion to be Modified

	Unit 1	Unit 2	Unit 3
1. Manufacturer's Name			
2. Model Number			
3. Actual Max Energy Input Capacity (Btu/hr)			
4. Actual Max Energy Input Capacity (Btu/hr)			
a. Before Burner Replacement			
b. After Burner Replacement			
5. Efficiency of Unit at 100% Rating			

D. Description of New Burner(s)

	Unit 1	Unit 2	Unit 3
1. Burner manufacturer*			
2. Burner model number*			
3. Method of atomization (air, steam, etc.)			
4. Primary fuel (#2, 4, 5, 6, oil, natural gas)			
5. Primary sulfur content (% by weight)			
6. Secondary fuel sulfur content (#2, 3, 4, 5, 6, oil, natural gas)			
7. Secondary fuel content (% by weight)			
8. Max firing rate (Gal/hr, ft^3/hr, etc.)			

E. Description of Burner(s) to be Replaced

	Unit 1	Unit 2	Unit 3
1. Burner manufacturer*			
2. Burner model number*			
3. Method of atomization (air, steam, etc.)			
4. Primary fuel (#2, 4, 5, 6, oil, natural gas)			
5. Primary sulfur content (% by weight)			
6. Secondary fuel sulfur content (#2, 3, 4, 5, 6, oil, natural gas)			
7. Secondary fuel content (% by weight)			
8. Max firing rate (Gal/hr, ft^3/hr, etc.)			

*If undetermined at time of application, indicate probable unit "or equivalent". Specific make and model must be provided prior to final approval.

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

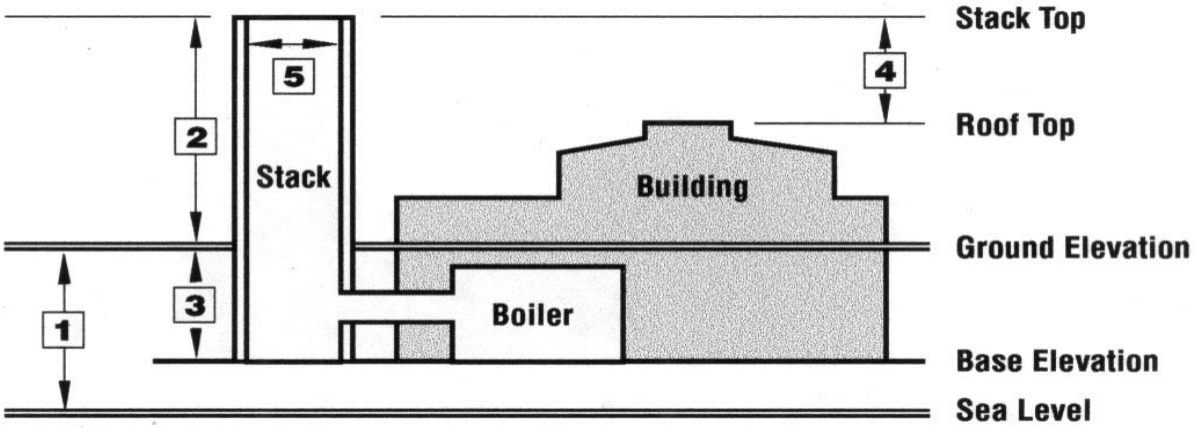
BWP AQ CPA-2 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Burner Replacement

Transmittal Number

Facility ID (if known)

F. Existing and New Modified Stack Data



Questions for Above Diagram

	Stack 1	Stack 2	Stack 3
1. Height of ground above sea level (arrow 1)	ft.	ft.	ft.
2. Height of stack top above ground level (arrow 2)	ft.	ft.	ft.
3. Height of ground above stack base (arrow 3)	ft.	ft.	ft.
4. Height of stack top above roof (arrow 4)	ft.	ft.	ft.
5. Stack Exit size (inside) (arrow 5)	in.	in.	in.
6. Is stack existing, new, or modified?			
7. Which combustion units on which stacks?			
8. Inside shell material			
9. Outside shell material			
10. Max gas exit velocity (ft/sec)			
11. Min gas exit velocity (ft/sec)			
12. Maximum stack gas exit temperature (^{o}F)			
13. Maximum stack gas volume (acfm)			
14. Type of rain protection			

Note: The rain protection device should be of such a design as to allow the unimpeded escape of the stack gases.

Transmittal Number

Facility ID (if known)

G. CPA Preparer

Name

Address

Telephone number

Company

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ CPA-3 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Non Fuel Emissions

Transmittal Number

Facility ID (if known)

A. Applicability

This form is to be used to apply for approval to construct, substantially reconstruct or alter a facility, where the portion of the facility being constructed, substantially reconstructed or altered would result in an increase in potential emissions of equal to or greater than five tons per year of any criteria pollutant, or equal to or greater than five tons per year of any single other air contaminant.

Please note that an emission reduction of the same air contaminant at the facility may not be subtracted from the emissions resulting from the construction, substantial reconstruction or alteration to bring emissions below the five tons per year threshold. Products of combustion from any fuel utilization facility are not included in the sum. Please refer to 310 CMR 7.02(5)

B. Materials that Constitute a Comprehensive Plan Approval Application – Non Fuel Emissions

Proposed projects, which are subject to Comprehensive Plan Approval Application requirements for industrial and commercial facilities, must submit the following items to the appropriate Regional Office for technical review and approval.

☐ **Manufacturer's Specifications** and brochures for process equipment, add-on air air pollution control equipment, fans/blowers, etc.

The following items should be submitted in duplicate and must bear the seal and signature of a Massachusetts Registered Professional Engineer

☐ **CPA Forms** should reflect the new or modified process equipment at the facility.

☐ **Supplemental Forms** for add-on air pollution control equipment fuel equipment, or for volatile organic compounds (VOCs), if applicable.

☐ **Standard Operating Procedure And Standard Maintenance Procedure** – See section J and section K of this form.

☐ **Plot Plan** – Scaled drawing indicating the outlines of the significant structures within 1500 feet of the building containing this project. Topographic contours may be shown on this plan or on separate plan.

☐ **Potential Emissions** – Detailed listing of proposed restrictions limiting potential emissions (see section E).

☐ **Topographic Map** – United States Geodetic Survey (USGS) map, or equivalent, showing the topographic contours for a distance of 1500 feet beyond the boundary lines in every direction. (This may be part of Plot Plan.)

☐ **Roof Plan; Building Elevation Plan** – Scaled drawings indicating the locations of all fresh air intakes, windows, and doors.

☐ **Schematic Process Diagram** – Dimensioned plan showing process equipment, hoods, ductwork, dampers, fans, temperature/pressure sensing devices, other monitors, air pollution control equipment, and all vents, by-passes, or discharges to atmosphere.

☐ **Calculations** – Detailed calculation sheets showing the manner in which the pertinent quantitative data was determined. This is especially important for calculated emission rates, sizing of air pollution control equipment, and sizing of air moving equipment.

☐ **Miscellaneous** – The Department may require other materials if it considers them necessary to the plans review. For example, modeling studies may be required, or monitoring data, or a noise survey. These special items are not usually requested except on the more complex or larger projects.

☐ **BACT Analysis**

C. Project Description

1. For the purpose of determining a potential emission rate (or rates), give the maximum operating times proposed for this project.

   a. hours/day

   b. days/week

   c. weeks/year

2. Fully describe the process equipment that will be constructed, substantially reconstructed or altered, identifying:

   a. maximum capacity of process equipment

   b. chemical identity of all raw materials

   c. chemical identity of all finished products

   d. sequence of process events keyed to the Process Diagram required in Section B

   e. process temperatures

   f. process pressures

   Use additional sheets of paper if necessary. If volatile organic compounds (VOC) are used in the application of coatings, attach separate formulation sheets and submit a BWP AQ SFP-1 form.

3. Specify maximum consumption/usage rates of each raw material:

4. Describe storage/handling procedures for raw materials:

C. Project Description (cont.)

5. Specify maximum production rate(s) of finished products:

6. Describe storage/handling procedures for finished products:

7. Describe features of equipment layout designed to allow for future growth, emission control device add-on, or stack testing ports:

8. Describe how fugitive emissions will be minimized especially during process upsets, or disruptions:

9. Explain those aspects of the design that have been required because of other environmental concerns, or safety concerns, or other regulations, such as; construction materials handling practices system interlocks, waste disposal procedures, etc.:

D. Emissions Data

1. Maximum Gaseous Emissions Rates:

Chemical Name	Before Control (pounds/hour)	After Control (pounds/hour)	After Control (ppm of volume)
a.			
b.			
c.			

2. Maximum Particulate Emissions Rates:

Chemical Name	Before Control (pounds/hour)	After Control (pounds/hour)	After Control (grains/DSCF)*
a.			
b.			
c.			

* grains per dry standard cubic foot

3. Indicate how the above emission rates were obtained, and attach appropriate calculations and documentation:

4. a. Describe the potential for visible emissions (opacity) from this project:

   b. Describe the potential for odor impacts from this project:

E. Potential Emissions

POTENTIAL EMISSIONS are used to determine applicability to air pollution control regulations and compliance fees. Unless otherwise restricted, potential emissions are calculated from the maximum operational capacity of the equipment as described in section C operated 8,760 hours per year. If you wish to limit potential emissions you must complete this section; this will be treated as part of the facility design and the limitation will be specifically stated in this Plan Approval.

1. In order to issue a permit limiting the facility's potential emissions, the Department must have a method to monitor compliance with the restriction. In other words, an enforceable permit condition must be available to the Department. The following questions require the facility to set a limit on the maximum amount of raw materials used (per month and per year) and therefore, the maximum amount of emissions possible. This will become the means to monitor and enforce the restriction. Alternative methods of restricting potential emissions will be evaluated on a case-by-case basis and the applicant should contact the Department before proposing such alternatives. Any such alternative method must be consistent with the U.S. EPA's June 13, 1989 guidance entitled, "Guidance on Limiting Potential to Emit in New Source Permitting". (Copies of this guidance are available from DEP offices).

Note:
This raw material restriction will become the facility's allowable usage. This amount can never be exceeded without prior Department approval.

Raw Material	Amount Used in Equipment 1		Amount Used in Equipment 2		Amount Used in Equipment 3		Total Used	
	per month	per year	per month	per year	per month	per year	per month	per year

Use additional paper if necessary

2. Describe any other physical or operational limitation on the capacity of the equipment to emit a pollutant, including air pollution control equipment, restriction on hours of operation, or on the type or amount of material combusted, stored or processed that will be used to restrict emissions:

Transmittal Number

Facility ID (if known)

F. Air Pollution Control Equipment

If new air pollution control equipment is proposed or if existing control equipment will be modified or affected by this project, then an equipment specific Supplemental Form must be submitted.

1. Is Emission Control System:

   ☐ Proposed? ☐ None?

   Existing? (if existing, supply previous Approval number)

   a. If proposed or existing, describe:

   b. If existing, described purpose changed:

2. Control Efficiency:

   Capture Efficiency (CE)

   Percent by weight pollutants captured by the ventilation system

   Destruction Efficiency (DE)

   Percentage by weight pollutants destroyed or captured in control device

   Overall Control Efficiency:

   Percentage by weight of overall efficiency of the control system (CE X DE)/100

   Describe how capture efficiency was derived:

3. Does this application represent Best Available Control Technology (BACT) as stated in Regulation 310 CMR 7.O2 (3)(j)6?

   ☐ Yes ☐ No

   a. If yes, is required supplementary documentation attached?

   ☐ Yes ☐ No

   b. If no, explain why this project is exempt:

G. Air Handling System

This section is for the description of fans and those flow parameters associated with the processes and/or the air pollution control equipment.

	Fan A	Fan B	Fan C
1. Identify fan (from process schematic)			
2. Fan Manufacturer			
3. Fan Model Number			
4. Fan Type (axial, centrifugal etc.)			
5. Capacity (in SCFM)			

Manufacturer's fan performance curve or rating curve, with operating point indicated, must be submitted with this application if the fans are an integral part of the installed or modified equipment.

6. Fan Operating Point in this System

	Fan A	Fan B	Fan C
a. Actual RPM			
b. Temperature at the fan (^oF)			
c. Fan pressure (static pressure, in H_2O)			
d. Actual flow rate of fan (ACFM)			
e. Actual horsepower requirements			

H. Miscellaneous Data

1. Number of employees at this facility

_____

2. Standard Industrial Classification (SIC) Code for this facility

_____

3. Does municipal water supply to your process operations have the required back-flow preventer?

☐ Yes ☐ No

If Yes, is it registered with the DEP Division of Water Supply?

☐ Yes ☐ No

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

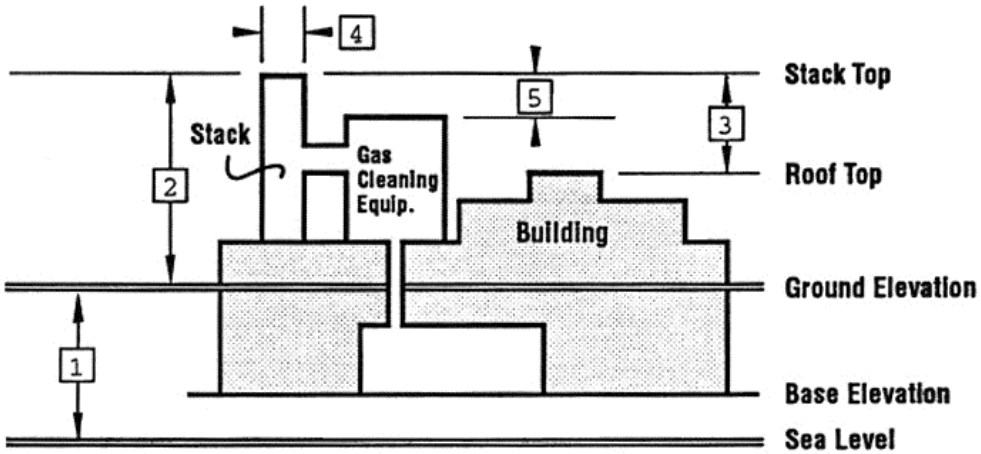
BWP AQ CPA-3 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Non Fuel Emissions

Transmittal Number

Facility ID (if known)

I. Exhaust Stack Description



Questions for the above diagram

ft. 1. Height of Ground Above Sea Level (arrow 1)	ft. 2. Height of Stack Top above Ground (arrow 2)
ft. 3. Height of Stack Top above Roof (arrow 3)	in. 4. Stack Exit Size (inside) (arrow 4)
ft. 5. Height of Stack Top above Control Equip. (arrow 5)	6. Discharge direction (horizontal or vertical)
7. Identify Stack Nos. as they appear on Process Schematic	8. Inside shell material
9. Outside Shell Material	to 10. Range of gas exit velocity (ft/sec)
11. Range of stack gas exit temp. (°F)	to 12. Range of stack gas volume (acfm)
13. Type of Rain Protection	

The stack parameters will be evaluated to assure they provide sufficient protection from building, terrain, and stack tip downwash effects. Also, the “dew point” of the exhaust gases will be considered in the evaluation.

Note: The rain protection device should be of such a design as to allow the unimpeded escape of the stack gases. “Rain Hats” are prohibited.

J. Standard Operating Procedure

Describe the start-up, operational, shutdown, and emergency procedures for the equipment that is integral to this project. The inscription must present, in sequence, the major steps that must be taken by the operator(s) to correctly and safely run the system. For each step, specify the duration and purpose, especially as it relates to maintaining safe operation and minimizing the emission of air contaminants. This inscription must detail the inter-relationship of the timing devices, the temperature indicators, the pressure indicators, the flow rate indicators, etc. **Specify which steps are under manual control and which are under automatic control**. Discuss the types, amounts, and duration of the release(s) of air contaminants during system fluctuations. Specify what measurements are observed and recorded to monitor performance. Use additional paper if necessary.

K. Standard Maintenance Procedure

Describe preventive maintenance procedures for this **entire system**. Include such items as cleaning, part replacement, scrubbing solution renewal/replacement schedules, method of leak testing, frequency of leak testing and/or effluent sampling to establish adequacy of control systems. Include Manufacturer's maintenance requirements. Each air pollution control device requires a separate and detailed maintenance procedure. You are required to keep organized records at the facility that will document the monitored operating parameters, and the history of maintenance activities for the most recent two-year period. Describe your proposed record keeping system. Use additional paper if necessary.

Transmittal Number

Facility ID (if known)

L. Plans Application Preparer

1. Person who complied the plans application materials
2. Representing
3. Address
4. Telephone number
5. Date completed

M. Certification

The seal and signature of a Massachusetts registered professional engineer must be entered below. This certifies that the information contained in this form has been checked for accuracy, and that the design represents good air pollution control engineering practice. (These must be originals. No photocopies, etc., of the seal and signature will be accepted.)

Print name

Authorized signature

Representing

Date PE number

Position/title

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ CPA-4 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Incinerators

Transmittal Number

Facility ID (if known)

A. Applicability

This form is to be used to apply for approval to construct, substantially reconstruct or alter an incinerator. Please refer to 310 CMR 7.02(3) and 310 CMR 7.02 (5)(a)5. For detail on current requirements of incinerators, contact the DEP regional or Boston Office of Air Quality Control. Additional requirements are contained in the Department's September 27, 1990 Memorandum, Policy 90-005 (attached).

B. Materials that Constitute a Comprehensive Plan Approval Application

Proposed projects, which are subject to Comprehensive Plan Approval Application requirements for residential, commercial, and industrial incinerators, must submit the following items to the appropriate Regional Office for review and approval.

☐ **Manufacturer's Specifications** and Brochures for Incinerator, Add-on Air Pollution Control Equipment, Fans/Blowers, etc.

The following items should be submitted in duplicate and must bear the seal and signature of a Massachusetts registered professional engineer:

☐ **CPA form** for residential, commercial, and industrial incinerators (Form BWP AQ CPA 04).

☐ **Community Site Assignment** – As required by Section 150A of Chapter 111 for incinerators having a capacity for greater than 2000 lbs/hr of waste.

☐ **Supplemental forms** for Add-on Air Pollution Control Equipment.

☐ **Standard Operating Procedure** and **Standard Maintenance Procedure**

☐ **Plot Plan** – Scaled drawing indicating the outlines of the significant structures within 1500 feet of the building containing this project. Topographic contours may be shown on this plan or on a separate plan.

☐ **Topographic Map** – United States Geodetic Survey (USGS) map, or equivalent, showing the topographic contours for a distance of 1500 feet beyond the boundary lines in every direction. (This may be part of Plot Plan.)

☐ **Roof Plan; Building Elevation Plan** – Scaled drawings indicating the locations of all fresh air intakes, windows, and doors.

☐ **Schematic Incinerator Diagram** – Dimensioned plan showing incinerator and ductwork, dampers, fans, temperature/pressure sensing devices, other monitors, air pollution control equipment, and all vents, by-passes, or discharges to atmosphere.

☐ **Calculations** – Detailed calculation sheets showing the manner in which the pertinent quantitative data was determined. This is especially important for calculated emission rates, sizing of air pollution control equipment, and sizing of air moving equipment.

☐ **BACT** – Appropriate documentation to demonstrate the unit meets current standards for incinerators.

☐ **Miscellaneous** – The Department may require other materials if it considers them necessary to the plans review. For example, modeling studies may be required, or monitoring data, or a noise survey. These special items are not usually requested except on the more complex or larger projects.

C. Stack Testing Requirements

1. Each unit will be required to have a performance test conducted.

2. Stack testing shall be conducted as close to 100% rated capacity as possible and represent worst case conditions as determined by the Department.

3. Infectious waste incinerators may be required to demonstrate their effectiveness in destroying spores. (The Department is currently investigating this possibility.)

4. All testing shall be in accordance with methods approved by the DEP and in accordance with 310 CMR 7.13.

D. Project Description

1. Does this application include all items requested in Section B, "Materials That Constitute a Plans Approval Application"?

   ☐ Yes ☐ No

   If no, explain

2. Is Site Assignment Required for this Unit? If yes, copy must be attached.

   ☐ Yes ☐ No

   If no, explain

3. Does this unit meet the requirements of Best Available Control Technology (BACT), and is appropriate documentation attatched?

   ☐ Yes ☐ No

   Describe

4. For the purpose of determining a "potential" emission rate (or rates), give the maximum operating times for this incineration unit.

   a. hours/day

   b. days/week

   c. weeks/year

E. Incinerator Description

1. _____
   Manufacturer
2. _____
   Model number
3. Materials of Construction:

   Shell _____ Refractory in primary _____ Thickness (in.) _____

   Refractory in secondary _____ Thickness (in.) _____ Refractory in stack _____ Thickness (in.) _____

   Stack shell _____
4. Size of Primary Chamber:

   Length (in.) _____ Width (in.) _____

   Height (in.) _____ Cross-sectional shape (round, square, etc.) _____

   Total enclosed volume (cubic feet) _____
5. Size of Secondary Chamber:

   Length (in.) _____ Width (in.) _____

   Height (in.) _____ Cross-sectional shape (round, square, etc.) _____

   Total enclosed volume (cubic feet) _____
6. Calculated Retention Time in Secondary Chamber (detailed calculations must be attached to this form):

   a. Average retention time during typical steady-state operations

   _____ seconds @ _____^{o}F

   b. Minimum retention time during maximum waste feed/burner firing combination

   _____ seconds @ _____^{o}F
7. Total Grate or Hearth Area

   _____
   square ft.

F. Burner Data

	Primary Chamber	Secondary Chamber
1. Burner manufacturer		
2. Burner model number		
3. Type of Atomization (steam, air, press, mesh, rotary cup)		
4. Number of burners in chamber		
5. Fuel type		
6. Max Fuel Firing Rate (all firing) (Gal/hr, lbs/hr, cubic ft per hr, etc.)		
7. Minimum fuel firing rate		
8. If Oil, Temp and Visc. at Max Rating		
9. Normal Fuel firing Rate (indicate units)		
10. Max Theoretical Air Requirement (SCFM)		
11. Percent Excess Air at 100% rating		
12. Turndown ratio		

13. Burner Modulation Control (on/off, low-high fire, full automatic, manual).

Explain

14. Main Burner Flame Ignition Method (electric spark, auto gas pilot, handheld torch, other).

Explain

G. Detailed Description of Waste Stream

The applicant must be able to define the waste stream in detail before selecting an appropriate incinerator. Please answer the questions in this section and attach a waste survey for your facility which indicates the range of heat content, moisture content, plastic content, and ash content of the waste.

(continue on following page)

Infectious Waste shall be limited to: 1) isolation wastes, 2) cultures and stocks of etiologic agents, 3) blood and blood products, 4) other wastes from surgery and autopsies, 5) contaminated laboratory wastes, 6) sharps, 7) dialysis unit wastes, 8) discarded biologicals, 9) tissues, organs, body parts, and body fluids, exclusive of formaldehyde or other preservative agents, l0) animal carcasses and bedding associated therewith. (See 105 CMR 480.000, Massachusetts DPH Licensure Rules and Regulations for Hospitals in Massachusetts.)

G. Detailed Description of the Waste Stream (cont.)

Definitions

Type 0 Waste - dry rubbish, trash
Type 1 Waste - rubbish
Type 2 Waste - mix of rubbish & garbage
Type 3 Waste - garbage
Type 4 Waste - infectious waste
Type 5 Waste - industrial (liquid)
Type 6 Waste - industrial (solid)

1. Composition of Waste

Waste Type	Charging Rate (pounds/hour)	Dry Combustibles % by weight	Moisture % by weight	% Ash	Btu/lb. as fired

2. Will any of the waste be generated off-site and transported to the incinerator? ☐ Yes ☐ No

(If "Yes", identify the source(s) of this waste by name and address)

3. Will waste be: ☐ continuous feed? ☐ batch feed?

4. If batch feed, what is the duration of a batch (hours)?

# of batches: per day per week

5. If continuous feed, what is volume of charging bin (cubic feet)?

6. What percent excess air is introduced in the primary chamber to combust waste?

In the secondary chamber?

H. Incinerator Controls Interlocks

1. Explain Control System that prevents the waste from being ignited prior to achieving the required temperature in the Secondary Chamber. Include details on the use of thermocouples, timers, interlocks, electronic switches, etc. to lock-out the primary chamber burners, the ram feeder, the charging door, etc.

2. a. Does the secondary burner(s) remain on for the duration of the burn? ☐ Yes ☐ No

   If no, give secondary burner set points. Low ^{O}F High ^{O}F

   b. What temperature is maintained in the secondary chamber just prior to waste ignition?

   ^{O}F

3. a. Primary chamber operating range: ^{O}F to ^{O}F

   b. Secondary chamber operating range: ^{O}F to ^{O}F

4. What controls the heat release rate in the primary combustion chamber? (feed rate? water sprays? combustion air controls? burner modulation? etc.)

   Explain

5. What controls the shutdown of the secondary chamber burner(s) during burndown? (timer? temperature indicator in primary chamber?, etc.)

   Explain

6. Describe the draft control system employed, if any, and attach calculations used to confirm size selection.

   Explain

7. Describe how controls are affected by reopening of the primary chamber door during the burn cycle.

H. Incinerator Controls Interlocks (cont.)

8. List all pyrometers and/or timing devices associated with the operation of the incinerator. (Each of these devices must be shown on the attached plans.)

Manufacturer	Model number	Location

I. Gas Cleaning Equipment

1. Type of equipment?

2. Detailed description (including materials of construction, number of spray heads, pressure drop through unit, etc.)

3. Describe mechanism for activation and deactivation of control equipment.

4. Attach calculation sheets to demonstrate the compatibility of the incinerator and the gas cleaning equipment.

J. Emissions Data

Permanent emissions test data and/or supporting calculation sheets must be submitted when so requested by the Department.

1. Particulate emission limitation:

(grains per DSCF @ 12% CO_2 and at 100% rated capacity)

2. Emission rate (lbs./hr, ug/DSCM, etc.) of other pollutants (describe):

a. Heavy metals | b. Gaseous | c. Other

K. Incinerator Drawings

A plan of the proposed incinerator must be attached showing the following:

1. Internal dimensions (sectional view)
2. Thermocouple
3. Air pollution control device(s)
4. Stack and sampling port locations
5. Automatic feeder (if applicable)
6. Fan and damper locations

L. Standing Operating Procedure(s)

Describe the start-up, operational, shutdown, and emergency procedures for the equipment that is integral to this project. The description must present, in sequence, the major steps that must be taken by the operator(s) to correctly and safely run the system. For each step, specify the duration and purpose, especially as it relates to maintaining a safe operation and minimizing the emission of air contaminants.

This description must detail the inter-relationship of the timing devices, the temperature indicators, the pressure indicators, the flow rate indicators, etc. Specify which steps are under manual control and which are under automatic control. Discuss the types, amounts, and duration of the release(s) of air contaminants during system fluctuations. Specify what measurements are observed and recorded to monitor performance.

M. Standing Maintenance Procedure

Describe preventive maintenance procedures for this incinerator. Include such items as cleaning, part replacement, scrubbing solution renewal/replacement schedules, method of leak testing, frequency of leak testing and/or effluent sampling to establish adequacy of control systems. Include manufacturer's maintenance requirements.

Each air pollution control device requires a separate and detailed maintenance procedure. Indicate your intention to keep organized records at the facility which will document the monitored operating parameters, and the history of maintenance activities for the most recent two year period.

N. Air Handling System

This section is for the description of those fans and those flow parameters associated with the processes and/or the air pollution control equipment.

	Fan A	Fan B	Fan C
1. Identify Fan (from process schematic)			
2. Fan manufacturer			
3. Fan model number			
4. Fan type (axial, centrifugal, etc.)			
5. Capacity (in SCFM)			

N. Air Handling System (cont.)

Manufacturer's fan performance curve or rating curve, with operating point indicated, must be submitted with this application if the fans are an integral part of the installed or modified equipment.

6. Fan Operating Point in this system:

	Fan A	Fan B	Fan C
a. Actual RPM			
b. Temperature at the fan			
c. Fan pressure (static pressure, in. H_2O)			
d. Actual flow rate at fan (ACFM)			
e. Actual horsepower requirements			

O. Miscellaneous Data

1. Number of employees at this facility:

_____

2. Standard Industrial Classification (SIC) Code(s) for this Facility:

_____

3. Does municipal water supply to your process operations have the required "back-flow" preventer?

☐ Yes ☐ No

If yes, is it registered with the DEP Division of Water Supply?

☐ Yes ☐ No

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

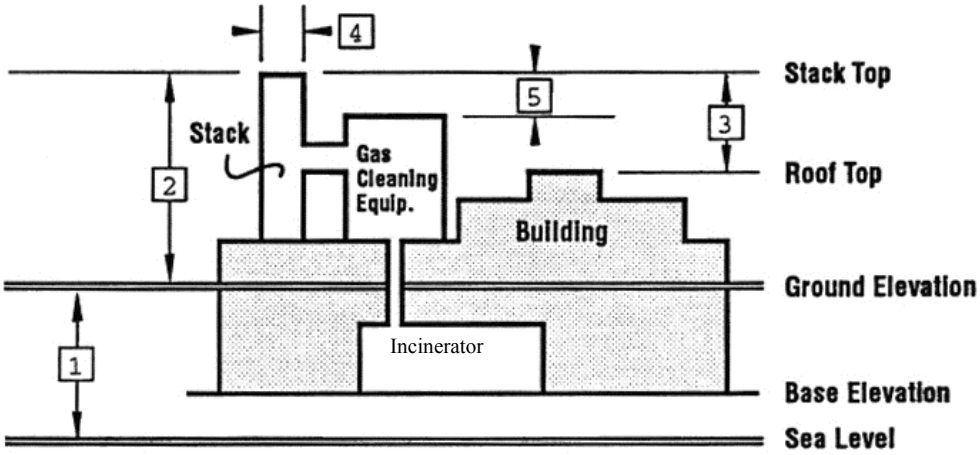
BWP AQ CPA-4 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Incinerators

Transmittal Number

Facility ID (if known)

P. Incinerator Description



Questions for the above diagram

ft. 1. Height of Ground Above Sea Level (arrow 1)	ft. 2. Height of Stack Top above Ground (arrow 2)
ft. 3. Height of Stack Top above Roof (arrow 3)	in. 4. Stack Exit Size (inside) (arrow 4)
ft. 5. Height of Stack Top above Control Equip. (arrow 5)	6. Discharge direction (horizontal or vertical)
7. Identify Stack Nos. as they appear on Process Schematic	8. Inside shell material
9. Outside Shell Material	to 10. Range of gas exit velocity (ft/sec)
11. Range of stack gas exit temp. (°F)	to 12. Range of stack gas volume (acfm)
13. Type of Rain Protection	

The stack parameters will be evaluated to assure they provide sufficient protection from building, terrain, and stack tip downwash effects. Also, the "dew point" of the exhaust gases will be considered in the evaluation.

Note: The rain protection device should be of such a design as to allow the unimpeded escape of the stack gases. "Rain Hats" are prohibited.

Q. CPA Preparer

1. Person who complied the plans application materials	2. Representing
3. Address	4. Telephone number
5. Date completed	

R. Certification

The seal and signature of a Massachusetts registered professional engineer must be entered below. This certifies that the information contained in this form has been checked for accuracy, and that the design represents good air pollution control engineering practice. (These must be originals. No photocopies, etc., of the seal and signature will be accepted.)

Print name

Authorized signature

Position/title

PE number

Date

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ CPA-5 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Solvent Cleaners

Transmittal Number

Facility ID (if known)

A. Applicability

This form is to be used in applying for approval to construct, substantially reconstruct, or alter solvent cleaning equipment when not electing an exemption pursuant to 310 CMR 7.03.

B. Materials That Constitute a Plans Submittal

Proposed projects which are subject to the Comprehensive Plan Approval Application requirements for solvent cleaners must submit the following items to the appropriate Regional Office for review and approval:

☐ Manufacturers specifications and brochures

The following items should be submitted in duplicate and should bear the seal and signature of a Massachusetts registered professional engineer

☐ CPA form for solvent cleaners

☐ Supplemental forms for associated air pollution control equipment—if such equipment is present, the appropriate form must be included.

☐ **Standard Operating Procedure** – a detailed document in conformance with the specifications set forth in 310 CMR 7.18(8).

☐ **Roof Plan** – only required if the solvent cleaner is ducted to the outside air.

☐ **Calculations** – when the equipment is hooded and ducted to the outside air, it is necessary to include detailed calculations showing the estimated solvent losses per unit time.

C. Project Description

1. Describe this project briefly (existing but unapproved, to be modified, new?):

_____

_____

2. What is the number of employees at this facility?

_____

_____

3. List the appropriate standard industrial classification (SIC) code(s) for this facility:

_____

_____

Transmittal Number

Facility ID (if known)

D. Solvent Handling and Emissions Data

1. Are carbon adsorption units used? ☐ Yes ☐ No

   If "Yes", describe:

2. Is waste solvent reclaimed at your facility? ☐ Yes ☐ No

   If "Yes", describe:

3. What is the estimated loss of solvent to the atmosphere?

   lbs./hr lbs./year

4. What is the estimated amount of solvent that will be collected for disposal or for delivery to a reclamation facility:

   lbs./hr lbs./year

5. Give the name and address of the solvent waste handler(s) or solvent reclamation handler(s) used:

6. Give the name and address of the solvent waste handler(s) or solvent reclamation handler(s) used:

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ CPA-5 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Solvent Cleaners

Transmittal Number _____

Facility ID (if known) _____

E. Solvent Cleaner Description

	Unit 1	Unit 2	Unit 3	Unit 4
1. Manufacturer				
2. Model number				
3. Number of identical units				
4. Is unit conveyorized or open top				
5. Is unit "cold" or "vapor" cleaning?				
6. Operating hours				
a. hrs/day				
b. days/week				
c. weeks/year				
7. Freeboard ratio*				
8. Air/vapor interface area (sq. ft.)				
9. Is a hoist used?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
10. Hoist speed (if applicable)				
11. Area of basket or parts (as lowered, sq. ft.)				
12. Heat input to sump (Btu/hr)				
13. Cover description (if applicable)				

*__Freeboard Height__ for a Cold Cleaner is the distance from the liquid solvent level in degreaser tank to the lip of the tank. For an Open Top Vapor Degreaser, it is the distance from top of the solvent vapor level in the tank during idling to the lip of the tank. For a Conveyorized Cold Cleaner, it is the distance from the liquid solvent level to the bottom of entrance or exit opening, whichever is lower. The __Freeboard Ratio__ is the __Freeboard Height__ to the smaller interior dimension (length, width, or diameter) of the degreaser.

F. Vapor Degreaser Description

1. _____
   Indicate the refrigerator coil temperature (^{O}F)
2. _____
   What is the transfer rate to the coils (Btu/hr)?
3. _____
   Indicate the water flow rate in the water jacket (gal/hr)
4. _____
   Indicate the inlet/outlet water temperature (^{O}F)
5. Is there a safety switch if the condenser fails? ☐ Yes ☐ No

Transmittal Number

Facility ID (if known)

G. Conveyorized Degreaser Description

1. Are drying tunnels provided? ☐ Yes ☐ No

   If yes, indicate the following:

   Tunnel height (ft)

   Tunnel width (ft)

   Tunnel length (ft)

H. Parts Description

1. What is the construction material?

2. Give the following information for the largest part routinely cleaned (indicate units as appropriate):

   Height

   Width

   Length

   Weight

I. Solvent Data

1. What type of solvent is being used?
2. What is the solvent temperature (^{O}F)?
3. What is the maximum annual consumption of solvent? Gallons per year
4. Indicate the spray pressure (PSIG)
5. Does spray go above vapor zone? ☐ Yes ☐ No
6. If solvent is agitated, describe how?

J. Ventilation Data

Submittal should include a scaled drawing of any hoods, ducts, or stacks or vents if the solvent cleaning unit is directly vented to the outside air through the walls or through the roof.

1. Describe the ventilation system(s) briefly:

2. What is the flow rate in the exhaust vent?

   (ACFM)

3. Indicate the hood dimensions:

   a. Length b. Width

4. Indicate the velocity:

   (ft/sec)

5. Indicate the hood static pressure:

   in. of water

6. List the fan manufacturer:

7. List the fan model number:

8. Indicate the fan pressure drop:

   in. of water

9. Indicate the following for the stack/vent:

   a. Height above ground (ft) b. Height above roof (ft)

   c. Exit dimensions (in) d. Exit velocity (ft/sec)

10. Is fan exhaust: ☐horizontal ☐vertical?

BWP AQ CPA-5 (for use with BWP AQ 02, 03)

Comprehensive Plan Approval Application for Solvent Cleaners

Transmittal Number

Facility ID (if known)

K. Preparer Information

1. Name
2. Representing
3. Street address
4. City & state
5. Telephone number
6. Date completed

L. Certification

The seal and signature of a Massachusetts Registered Professional Engineer must be entered below. This certifies that the information contained in this form has been checked for accuracy, and that the design represents good air pollution control engineering practice. (These must be originals, no photocopies, etc. of the seal and signature will be accepted.)

Print name

Authorized signature

Position/title

Representing

Date

P.E. number