



BWP AQ26 Public Benefit Set Aside NOx Allowance

Introduction

MassDEP *Applications*, as well as *Instructions & Supporting 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.

The Microsoft Word® format files include a number of separate documents. Although we recommend that you print out the entire application package, including instructions and all materials, you may choose to print specific documents by selecting the appropriate page numbers for printing. *Applications* in Microsoft Word® format must be downloaded separately. Users with Microsoft Word® 97 or later may complete the *Application* form electronically.

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

Instructions: Public Benefit Set Aside NOx Allowance Program

1. What is the purpose of the Public Benefit Set-Aside (PBSA) program?

As part of Massachusetts' Clean Air Interstate Rule (Mass CAIR), 310 CMR 7.32, the Department has established a PBSA program at 310 CMR 7.32(5)(c)2. to encourage Energy Efficiency Projects (EEPs) and Renewable Energy Projects (REPs). This program provides for the allocation of a limited number of NOx allowances, based on the energy saved by EEPs and the energy generated by REPs.

2. Is participation in the PBSA program required?

No. Participation in the PBSA program is completely voluntary. Participation is not required by statute or regulation.

3. Who may apply for PBSA NOx Allowances?

An application may be submitted by a Project Proponent, which means any person who owns, leases, operates or controls an EEP or a REP, or a party who aggregates one or more REPs or EEPs in order to reach the minimum threshold of at least one whole CAIR NOx Ozone Season allowance. Aggregators may include, without limitation, a common owner of projects, an energy service company, an emission trading broker, or a state or municipal entity. (See definitions, 310 CMR 7.32(1)(b)).



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4. How do I submit an application?

For your application to be considered complete, you must submit the BWP AQ26 Application form and provide all information requested in that form. Applications must be submitted both electronically and in hard copy. Electronic filings must include a spreadsheet showing the calculations used to determine the amount of energy saved or generated, according to the formulas in the regulation. (See *PBSA Procedures*, 310 CMR 7.32(5)(c)2.)

The electronic copy of the application and any supporting materials must be e-mailed to:
Azin.Kavian@state.ma.us (617-574-6801)

One hard copy of the application and supporting materials must be mailed to:
Department of Environmental Protection
One Winter Street
Boston, MA 02108
Attention: Azin Kavian, 7th floor

5. Is there an application fee?

There is no application fee for BWP AQ 26.

6. What projects are eligible for allowances?

The definitions of Energy Efficiency Projects (EEPs) and Renewable Energy Projects (REPs) describe the types of projects that are eligible. (See *Definitions*, 310 CMR 7.32(1)(b).)

Projects meeting these definitions must have become operational after December 31, 1999 in order to be eligible for allowances. PBSA allowances will not be allocated for energy saved or generated by any project prior to calendar year 2002. (See *Timing of Allowances*, 310 CMR 7.32(5)(c)2.h.)

7. What are the application deadlines?

Completed applications for PBSA allowances must be received by the Department by August 1st of each year. The designated year of the PBSA allowance will correspond to the calendar year in which the application is submitted. The allocation will be based on the energy saved or generated in the calendar year preceding the year in which the application is submitted. (See *Timing of Allowances*, 310 CMR 7.32(5)(c)2.h. and the table below.)

Year energy is saved or generated	Application Due	Year of Allowance	Allocation Date
<i>Previous calendar year or control period</i>	<i>August 1 of each year</i>	<i>Same as year of application</i>	<i>October 31 of year of application</i>



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8. How many years can I receive allowances for any one project?

Allowances may be awarded to an EEP for up to 7 years. (EEPs are presumed to have a useful life of 7 years.) The 7 years must be consecutive and start immediately following the year the project first becomes operational.

Allowances may be awarded to an REP for as long as the project is generating energy.

Allowances will be allocated annually. If there are more eligible projects than available allowances, allowances will be allocated on a pro rata basis. An award of allowances in one year does not ensure the award of the same number of allowances in a subsequent year.

9. If my project is ongoing, may I request allowances for more than one year?

Projects may be awarded allowances for more than one year. A separate application must be submitted for each project each year.

10. How do I calculate the number of allowances that my project is eligible for?

The regulation contains formulas for the calculation of allowances for different types of projects. (See 310 CMR 7.32(5)(c)2.e.) Allowances must be calculated using the formulas in the regulation except for projects that do not singly, or in the aggregate, exceed five allowances. For these smaller projects, other reliable, replicable methods of quantifying allowances may be used. The Department will determine if such other methods are acceptable.

Because the formulas are complicated, the following explanations are provided.

NOTE: If there is a difference between a provision of 310 CMR 7.32(5)(c)2.e. and any of the following explanations, the regulation will govern.

a. REPs Generating Electrical Energy

Allowances are calculated by: (multiplying the megawatt hours of electricity generated by renewable power (MWh)) *times* (the allocation rate of 1.5 pounds of allowances per megawatt hour (1.5 lbs/MWh) *divided by* (2000 pounds per ton).

$$\text{CAIR NOx Ozone Season allowances} = \frac{(\text{MWh} \times 1.5 \text{ lbs/MWh})}{(2000 \text{ lbs/ton})}$$

b. REPs Generating Useful Net Thermal Energy

Allowances are calculated by: multiplying (the number of millions of British thermal units of thermal energy generated by renewable power) *times* (the allocation rate of 0.44 pounds of allowances per million of British thermal units) *divided by* (2000 pounds per ton).

$$\text{CAIR NOx Ozone Season allowances} = \frac{(\text{MMBtu output} \times 0.44 \text{ lbs/MMBtu output})}{(2000 \text{ lbs/ton})}$$



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10. How do I calculate the number of allowances that my project is eligible for?

c. EEPs Saving Electrical Energy

Allowances are calculated by: multiplying (the megawatt hours of electricity saved due to implementing an energy efficiency project) *times* (the allocation rate of 1.5 pounds of allowances per megawatt hour) *divided by* (2000 pounds per ton).

$$\text{CAIR NOx Ozone Season allowances} = \frac{(\text{MWh} \times 1.5 \text{ lbs/MWh})}{(2000 \text{ lbs/ton})}$$

Where MWh is the amount of electrical energy saved by the EEP.

d. EEPs Saving Thermal Energy

Allowances are calculated by: multiplying (the number of millions of British thermal units of thermal energy saved due to implementing an energy efficiency project) *times* (the allocation rate of 0.44 pounds of allowances per million of British thermal units) *divided by* (2000 pounds per ton).

$$\text{CAIR NOx Ozone Season allowances} = \frac{(\text{MMBtu output} \times 0.44 \text{ lbs/MMBtu output})}{(2000 \text{ lbs/ton})}$$

Where MMBtu output is the amount of thermal energy saved by the EEP.

e. EEPs Saving Thermal or Mechanical Energy in a Manufacturing Process

Allowances are calculated by multiplying:

(energy saved due to a change in manufacturing process)

times

(the NOx emission rate after the change in the manufacturing process (adjusted to penalize increases in the emission rate and reward decreases in the emission rate))

divided by

(2000 pounds per ton).

f. EEPs That Are Combined Heat and Power Systems With Actual Energy Efficiency Equal to or Greater Than 60%

i. For CHP systems, allowances are determined by first calculating the overall efficiency of the combined heat and power (CHP) system and determining if the system is at least 60% efficient at turning fuel into energy. If the system meets the 60% threshold, the project proponent continues on to the next calculation.

ii. Allowances are calculated by comparing the actual emissions from the CHP system to a conventional system that includes a utility power plant for electricity and an industrial boiler for steam and then dividing by 2000 pounds per ton. The conventional system is assumed to have: an emission factor of 0.15 lbs. NOx/MMBtu; an electric generation efficiency of 34%; and a steam boiler efficiency of 80%.

11. What is the timeline for MassDEP's review of applications?

Following receipt of the applications, MassDEP will process the applications as expeditiously as possible and allocate allowances by October 31 of each year. After reviewing an application, MassDEP may request that the project proponent submit additional information if the application is incomplete or if the information submitted does not adequately document the energy saved or generated by the project.



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12. What regulations apply to the PBSA program? Where can I get copies?

Applicable Massachusetts regulations include, but are not limited to, the following:

- a. Air Quality Regulations, 310 CMR 7.00 et seq.
- b. Clean Air Interstate Rule (Mass CAIR), 310 CMR 7.32; PBSA definitions, 310 CMR 7.32(1)(b), and PBSA program, 310 CMR 7.32(5)(c)2.
- c. Regulations of the Department of Telecommunications and Energy, 220 CMR 11.00 et seq., Rules Governing the Restructuring of the Electric Industry.
- d. Regulations of the Office of the Attorney General, 940 CMR 19.00 et seq., Retail Marketing and Sale of Electricity.
- e. Energy Conservation provisions of the MA Building Code, 780 CMR Chapter 13.

These may be purchased at:

State Bookstore (in State House)
Room 116
Boston, MA 02133
617-727-2834

State House West Bookstore
436 Dwight Street, Room 102
Springfield, MA 01103
413-784-1376

The unofficial version of these regulations may also be obtained from the MassDEP Web site at <http://www.mass.gov/air/laws/regulati.htm>, or from the Web sites of the other agencies listed above.

13. Application Completeness Checklist

- Complete the BWP AQ26 Application form and provide all information requested.
- The completed application form must be submitted both electronically and in hard copy. Any additional information (e.g. drawings) that cannot be submitted electronically may be submitted in hard copy only.
- One hard copy of the application and any supporting materials must be mailed to:

Department of Environmental Protection
One Winter Street
Boston, MA 02108
Attention: Azin Kavian, 7th floor

- Electronic filings should be submitted to Azin.Kavian@state.ma.us and must include a spreadsheet showing the calculations of energy saved or generated by the project based on the formulas contained in the regulation (or for projects that do not exceed 5 allowances, based on other reliable, replicable methods of quantification that are approved by the Department).
- The Part B Certification must be signed and submitted with the hard copy of the application.



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Application for PBSA NOx Massachusetts Clean Air Interstate Rule (Mass CAIR) Allowances

A. Summary of PBSA Allowance Application Information

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



1. Applicant Information:

Name of Project Proponent or Representative		
Mailing Address		
City	State	Zip Code
Contact Person Name	Fax Number	
Telephone Number	E-mail address	

2. Total number of allowances being requested with this application: _____
(Must equal one whole allowance at a minimum)

3. NATS Account number that allowances will be transferred to: _____
(If known at time of application)

4. Were electric distribution company energy efficiency funds (e.g., rebates or system benefit charge funds) used for any of the projects applied for? If yes, what percent of total costs did those funds represent? yes no

B. Certification

As the project proponent, or the person fully authorized to make this certification on behalf of the project proponent, I certify that I personally examined the foregoing information, am familiar with the information contained in this application and any attachments thereto and that, based on my inquiry of those persons immediately responsible for obtaining the information, I believe that the information contained in this application, including without limitation the quantification of the total amount of energy generated or saved by the project, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment.

Signature of Person Authorized To Make This Certification
Print Name
Title
Date



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C. Allowance Calculations

Choose the appropriate tables below based on the types of projects. Use the applicable formulas in the regulation to calculate the energy saved or generated by the projects and the number of allowances you are requesting. Applicants will need to thoroughly review the regulation in order to calculate the allowances correctly.

You must attach a spreadsheet to the required electronic application that includes the details of your calculations.

If this application is for aggregated projects, you must provide calculations for each of the projects being aggregated. (Multiple columns in each of the tables below are provided for aggregated projects.)

If your project does not exceed five allowances you may use reliable and replicable quantification methods other than the formulas provided in the regulation. If you do so, you must attach a description of your methodology, including a narrative description and a spreadsheet. The Department will determine if such other methods are acceptable.

1. Renewable Energy Projects (REPs):

Narrative description of REP projects, including site locations with street addresses. If the application is for aggregated projects, provide type of project, location and description of each project that is being aggregated. Please attach additional sheets if necessary.

	Project Name	Project Name	Project Name
a. Project type: (wind, small hydro, etc.)	_____	_____	_____
b. Type of output generated:	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu
c. Date REP was built:	_____	_____	_____
d. Date REP began generating energy:	_____	_____	_____
e. Calibration Standard of Output Meter(s): For example electric meter calibrated to OP18 standard, steam meter calibrated to ASME standard	_____	_____	_____
f. Net output generated: Details must be included on spreadsheets.	_____	_____	_____
g. Allowances applied for:	_____	_____	_____

For MWh: Allowances = (Net Output x 1.5) / 2000 - see formula at 310 CMR 7.32(5)(c)2.e.i
 For MMBtu: Allowances = (Thermal Output x 0.44) / 2000 - see formula at 310 CMR 7.32(5)(c)2.e.ii



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C. Allowance Calculations (cont.)

2. Energy Efficiency Projects (EEPs):

Narrative description of EEP projects, including site locations with street addresses. If the application is for aggregated projects, provide type of project, location and description of each project that is being aggregated. Please attach additional sheets if necessary.

	Project Name	Project Name	Project Name
a. Project Type:			
New building or building addition project:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Equipment, Fixtures or Materials:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Operation or Maintenance Procedures:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Other (please describe):	_____	_____	_____
b. Type of energy saved:	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu
c. Date project constructed or completed:	_____	_____	_____
d. Date project operational or in use:	_____	_____	_____
e. Baseline energy value:	_____	_____	_____
Buildings: Energy that would have been consumed if constructed according to 780 CMR 1301 et seq.			
Other: Energy that was consumed during baseline period before project			
f. Period during which energy was saved:	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual
g. Energy saved:	_____	_____	_____
Details must be included on spreadsheets.			
h. Allowances applied for:	_____	_____	_____
Buildings:	For MWh see 310 CMR 7.32(5)(c)2.e.iii.(iii). For MMBtu see 310 CMR 7.32(5)(c)2.e.iv.(iii).		
Other:	For MWh see formula at 310 CMR 7.32(5)(c)2.e.iii.(i). For MMBtu see formula at 310 CMR 7.32(5)(c)2.e.iv.(i).		



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C. Allowance Calculations (cont.)

3. Manufacturing EEPs where energy consumption is measured on a unit of production basis:

Narrative description of Manufacturing EEP projects, including site locations with street addresses. If the application is for aggregated projects, provide type of project, location and description of each project that is being aggregated. Please attach additional sheets if necessary.

	Project Name	Project Name	Project Name
a. Project Type:	_____	_____	_____
b. Type of energy saved:	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu	<input type="checkbox"/> MWh <input type="checkbox"/> MMBtu
c. Date project completed:	_____	_____	_____
d. Date project began producing units of product:	_____	_____	_____
e. Period during which energy was saved:	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual
f. Energy used to produce one unit of product:			
i. Before the project (ET1/PT1)	_____	_____	_____
ii. After the project (ET2/PT2)	_____	_____	_____
g. Number Of Units Produced During Control Period	_____	_____	_____
h. NOx emission rate:			
i. Before project (NPT1):	_____	_____	_____
ii. After project (NPT2):	_____	_____	_____
i. Energy saved by project	_____	_____	_____
h. Allowances applied for:	_____	_____	_____

$$\text{Allowances} = \frac{((ET1/PT1)-(ET2/PT2))*Pt2*NPT2*(NPT1/NPT2)}{(2000 \text{ lb/ton})}$$

See formula at 310 CMR7.32(5)(c)2.e.v.



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C. Allowance Calculations (cont.)

4. Combined heat and power EEPs with actual energy efficiency equal to or greater than 60%

Narrative description of CHP projects, including site locations with street addresses. If the application is for aggregated projects, provide type of project, location and description of each project that is being aggregated. Please attach additional sheets if necessary.

	Project Name	Project Name	Project Name
Part 1: Energy Efficiency Calculation			
a. Net useful Electrical Output converted to BTUs per unit of time (NEO)	_____	_____	_____
b. Net Useful Thermal energy Output or energy output in BTUs per unit of time (UTO)	_____	_____	_____
c. Gross Energy Input (GEI)	_____	_____	_____
d. % of actual energy efficiency (Must be Equal to or Greater than 60%. % Efficiency = $\frac{NEO + UTO}{GEI}$)	_____	_____	_____
Part 2: Allowance Calculation			
a. NOx Conventional: Include kWh and HeatOut in your spreadsheet.	_____	_____	_____
b. NOx CHP System: Include BtuIn and NOxRate in your spreadsheet.	_____	_____	_____
c. Period during which NOx was emitted:	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual	<input type="checkbox"/> ozone season <input type="checkbox"/> 5/12 of annual
d. Tons of NOx emitted:	_____	_____	_____
e. Allowances Applied for:	_____	_____	_____

Allowances = $\frac{NOx\ Conventional - NOx\ CHP\ System}{(2000\ lbs/ton)}$

See formula at 310 CMR 7.32(5)(c)2.e.vi.