Marconi, Angela D. (DNREC)

From: Smith, Melanie A. (DNREC)
Sent: Monday, February 26, 2018 10:51 AM
To: Austin Pajda (apajda@mountaire.com)
Cc: French, Joanna (DNREC); Mattson, Tracy M. (DNREC); DNRECAWM, AQMFOIA1 (MailBox Resources)
Subject: Mountaire Millsboro Permits APC-87/020-OPERATION (Amendment 3), Rec. Pit 1, APC-2014/0092-OPERATION, Rec. Pit 3

Austin,
You have approval to do the demolition work for the baghouses for Receiving Pits 1 and 3 at Millsboro. We are tentatively advertising this Sunday for 15 days. If there are no public comments or requests for a public hearing, the construction permits will then be issued. Don't do any construction work until you have the permits.

Melanie Smith, P.E.
Division of Air Quality
State Street Commons
100 W. Water Street
Suite 6A
Dover, Delaware 19904
(302) 739 9402

Marconi, Angela D. (DNREC)

From: Smith, Melanie A. (DNREC)
Sent: Monday, February 26, 2018 2:56 PM
To: Austin Pajda (apajda@mountaire.com)
Cc: Mattson, Tracy M. (DNREC); French, Joanna (DNREC); DNRECAWM, AQMFOIA1 (MailBox Resources)
Subject: AERSCREEN Input for Mountaire Millsboro Rec. Pits 1 & 3, APC-1987/0020-C-A4, APC-2014/0092-C-A1
Attachments: AERSCREEN Input Form.xlsx

Austin,
I need stack information for both baghouses. Please email me information for AQM-4.6, 38. We are using AERSCREEN, which does account for building downwash. Are there any buildings around these emission points? If yes, then fill in attached form as well. Thank you.

The Department will be advertising on March 4, 2018.

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DNREC
Division of Air Quality

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AERSCREEN Input Form

Complete one form for each source at the facility.

Section 1 - Facility Information

Business Name:

Facility/Registered Entity Name (if different):

Current Permit Number (if applicable):

Address of Site:

City: Zip Code:

Contact Person Details: Name: Title:
Email: Phone:

Section 2 - Emission Point Characterisitics

Section 2a - Stack or Release Type

Vertical Stack: ☐ Complete Section 2b
Capped Stack: ☐ Complete Section 2b
Horizontal Stack: ☐ Complete Section 2b
Flare: ☐ Complete Sections 2b and 2e
Volume: ☐ Complete Section 2c
Area: ☐ Complete Section 2d

Description of the Source:

Source ID:

Source Coordinates (for all sources): Latitude Longitude

Distance From Source to the Nearest Property Line: (ft)

Section 2b - For Stacks/Point Sources Only: POINT

Stack Height (Above Ground): (ft)
Inside Stack Diameter: (ft)
Stack Exhaust Temperature: (°F) (indicate if ambient)
Stack Exit Flow Rate OR Velocity:
Exit Velocity: (fps)
OR
Flow Rate: (ACFM)

Section 2c - For Volume Sources Only: VOLUME

Initial Lateral Dimension of the Volume Source: (ft)
Initial Vertical Dimension of the Volume Source: (ft)
Centerpoint Height Above Ground: (ft)

Section 2d - For Area Sources Only: AREA

Release Height (Above Ground): (ft)
Area Source Length of Long Side (if Rectangular Area Source): (ft)
Area Source Length of Short Side (if Rectangular Area Source): (ft)
Radius of Circle (if Circular Area Source): (ft)
Orientation Angle (if applicable): (Degrees)
Initial Vertical Dimension of the Plume (if applicable): (ft)

Section 2e - For Flares Only: FLARE

Heat Release Rate: cal/s
Radiative Heat Loss Fraction (if known):

Section 3 - Emission Rates:

		Carbon Monoxide (CO)	Nitrogen Oxides (NOx)	Particulate Matter ($PM_{2.5}$)	Particulate Matter (PM_{10})	Sulfur Dioxide (SO_2)	Lead (Pb)
Emission Rate - Maximum Hourly:	(lb/hr)						
Emission Rate - Maximum 8 Hour:	(lbs/8-hours)		—	—	—	—	—
Emission Rate - Maximum Daily:	(lbs/day)	—	—			—	—
Emission Rate - Annual:	(tons/yr)						
Emission Rate - Maximum 3 Month Average:	(lbs/3 months)	—	—	—	—	—	

Include an explanation as to how emissions were determined.

Section 4 - Building/Downwash Parameters (if applicable, only applies to point sources):

Building Height: (ft)
Building Length: (ft)
Building Width: (ft)
Distance Between Stack and Center of the Building: (ft)
Maximum Building Dimension Angle to True North: degrees
Direction of Stack From Center of the Building: degrees

If the applicant has a Building Profile Input Program for Plume Rise Model Enhancements (BPIPPRM), this should be provided to the Department instead of the parameters abov

Section 5 - Surface Characteristics

If the applicant has an existing AERSURFACE output file for surface characterisitics, this should be provided to the Department instead of the parameters below.

If using the AERMET seasonable Tables:

Surface Profile Type: (Select from the drop down list)
Climate Profile: Dry (If Wet or Average should be used, please explain)

If using user defined values:

Surface Roughness:
Bowen Ratio:
Albedo:

Marconi, Angela D. (DNREC)

From: Austin Pajda <apajda@mountaire.com>
Sent: Tuesday, February 27, 2018 7:55 AM
To: Smith, Melanie A. (DNREC)
Cc: French, Joanna (DNREC); Mattson, Tracy M. (DNREC); DNRECAWM, AQMFOIA1 (MailBox Resources)
Subject: RE: AERSCREEN Input for Mountaire Millsboro Rec. Pits 1 & 3, APC-1987/0020-C-A4, APC-2014/0092-C-A1

I apologize Melanie, it should be 14,500 (typo). For proof, this 14,500 ACFM number is in CamCorp's letter.

From: Smith, Melanie A. (DNREC) [mailto:Melanie.Smith@state.de.us]
Sent: Tuesday, February 27, 2018 7:51 AM
To: Austin Pajda <apajda@mountaire.com>
Cc: French, Joanna (DNREC) <Joanna.French@state.de.us>; Mattson, Tracy M. (DNREC) <Tracy.Mattson@state.de.us>; DNRECAWM, AQMFOIA1 (MailBox Resources) <DNREC_AWM_AQMFOIA1@state.de.us>
Subject: RE: AERSCREEN Input for Mountaire Millsboro Rec. Pits 1 & 3, APC-1987/0020-C-A4, APC-2014/0092-C-A1

Austin,
The application says 14,500 ACFM. Which is correct?
The silo is considered an obstruction and counts. Emissions are so low this is really an academic exercise but I would like the information so AERSCREEN can decide.

Melanie Smith, P.E.
Division of Air Quality
State Street Commons
100 W. Water Street, Suite 6A
Dover, DE 19904
(302) 739 9402

From: Austin Pajda [mailto:apajda@mountaire.com]
Sent: Monday, February 26, 2018 4:00 PM
To: Smith, Melanie A. (DNREC) <Melanie.Smith@state.de.us>
Subject: RE: AERSCREEN Input for Mountaire Millsboro Rec. Pits 1 & 3, APC-1987/0020-C-A4, APC-2014/0092-C-A1

Melanie

Below is the information for both baghouse for AQM-4.6, 38.

Stack Height Above Grade: 9 feet
Stack exit Diameter (rectangular) 18" x 27"
Is a stack cap present: No
Stack Configuration: Horizontal
Stack Exit Gas Temperature: Ambient
Stack Exit Gas Flow Rate: 12,500 ACFM

In regards to the building downwash, the closest thing would be the big grain bins, but they are >25 feet away. Is this considered a building and, if so, is this distance significant to be included?

Austin

From: Smith, Melanie A. (DNREC) [mailto:Melanie.Smith@state.de.us]
Sent: Monday, February 26, 2018 2:56 PM
To: Austin Pajda <apajda@mountaire.com>
Cc: Mattson, Tracy M. (DNREC) <Tracy.Mattson@state.de.us>; French, Joanna (DNREC) <Joanna.French@state.de.us>; DNRECAWM, AQMFOIA1 (MailBox Resources) <DNREC_AWM_AQMFOIA1@state.de.us>
Subject: AERSCREEN Input for Mountaire Millsboro Rec. Pits 1 & 3, APC-1987/0020-C-A4, APC-2014/0092-C-A1

Austin,
I need stack information for both baghouses. Please email me information for AQM-4.6, 38. We are using AERSCREEN, which does account for building downwash. Are there any buildings around these emission points? If yes, then fill in attached form as well. Thank you.

The Department will be advertising on March 4, 2018.

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Marconi, Angela D. (DNREC)

From: Smith, Melanie A. (DNREC)
Sent: Tuesday, February 27, 2018 3:28 PM
To: Austin Pajda (apajda@mountaire.com)
Cc: French, Joanna (DNREC); Mattson, Tracy M. (DNREC); DNRECAWM, AQMFOIA1 (MailBox Resources)
Subject: Mountaire Millsboro Permits APC-1987/0020-C and APC-2014/0092-C Rec. Pits Stack Downwash

Austin,
A structure is considered sufficiently close to a stack to cause downwash when the minimum distance between the stack and the building is less than or equal to five times the lesser of the structure height or maximum projected width of the structure (5L). The distance is commonly referred to as the structure's region of influence. If the source is located near more than one structure, assess each structure and stack configuration separately.

Melanie Smith, P.E.
Division of Air Quality
State Street Commons
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Marconi, Angela D. (DNREC)

From: Smith, Melanie A. (DNREC)
Sent: Tuesday, February 27, 2018 9:50 PM
To: Austin Pajda (apajda@mountaire.com)
Cc: French, Joanna (DNREC); Mattson, Tracy M. (DNREC); DNRECAWM, AQMFOIA1 (MailBox Resources)
Subject: Mountaire Millsboro Rec. Pits Downwash for AERSCREEN APC-1987/0020-C, APC-2014/0092-C
Attachments: 2072_001.pdf

Austin,
Print attached diagrams to help with data for Receiving Pits' downwash for AERSCREEN.

Melanie Smith, P.E.
Division of Air Quality
State Street Commons
100 W. Water Street
Suite 6A
Dover, Delaware 19904
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Building Downwash

- 7 Admin.Code 1127 Stack Heights
  - GEP stack height is the greater of 65 m or H_{GEP}
- **Nearby**" means

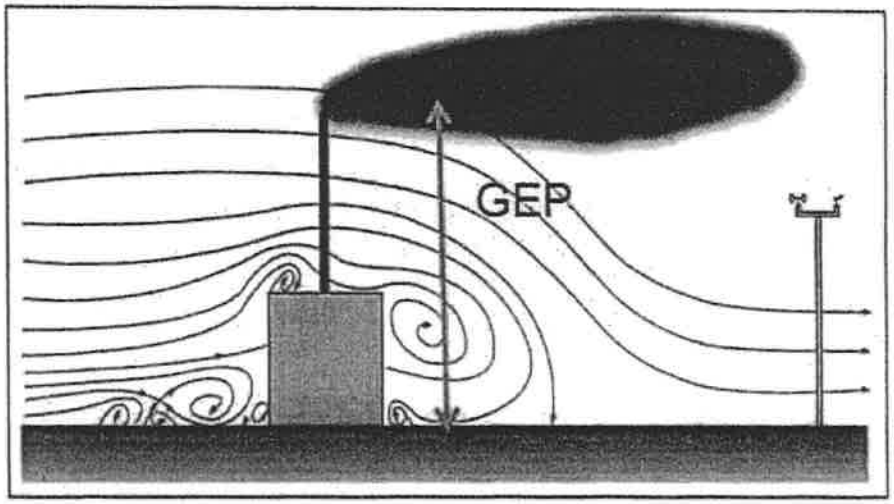
As used in 3.2.2 of this regulation, that distance up to five times the lesser of the height or the width dimension of a structure but not greater than 0.8 km (½ mile).

Hg = good engineering practice stack height, measured from the ground-level elevation at the base of the stack;

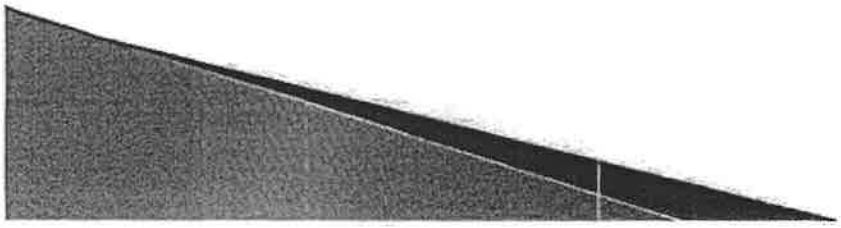
H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack;

L = lesser dimension (height or projected width) of nearby structure or structures,

Building Downwash – Tallest Stack

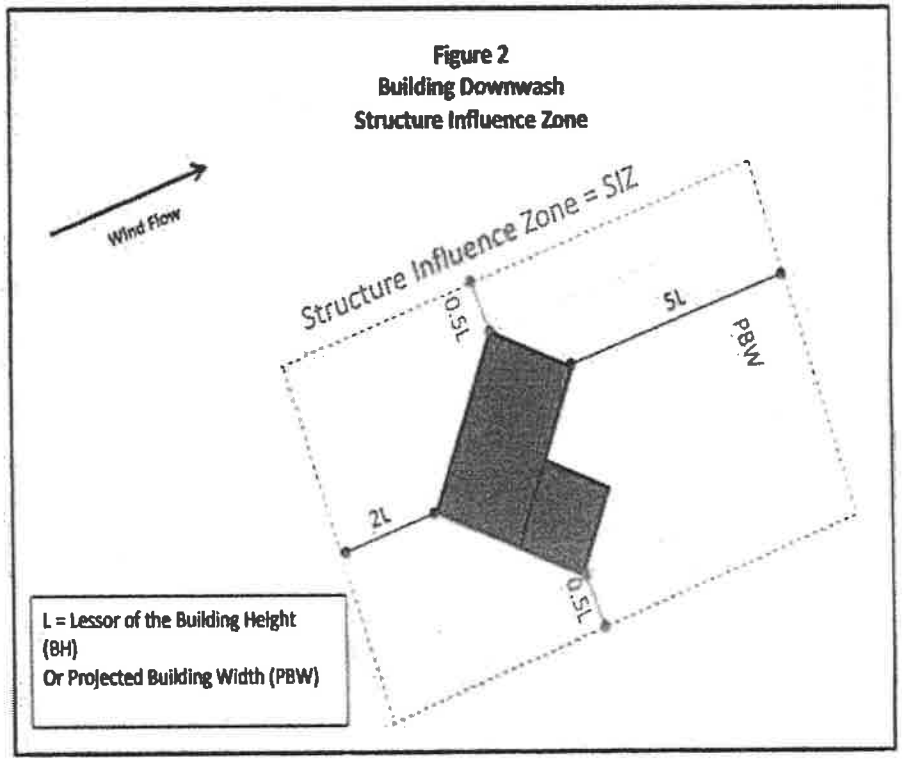


$H_{GEP} = 2.5\ H_{Bldg}$ **Prior to 1979** $H_{GEP} = H_{Bldg} + 1.5\ L$



Building Downwash- Area of Influence

- In the downwind direction, if the distance between the stack and a building is <5L downwash will be considered. Likewise, in the upwind direction, if the distance between the stack and a building is <2L, downwash will be considered.

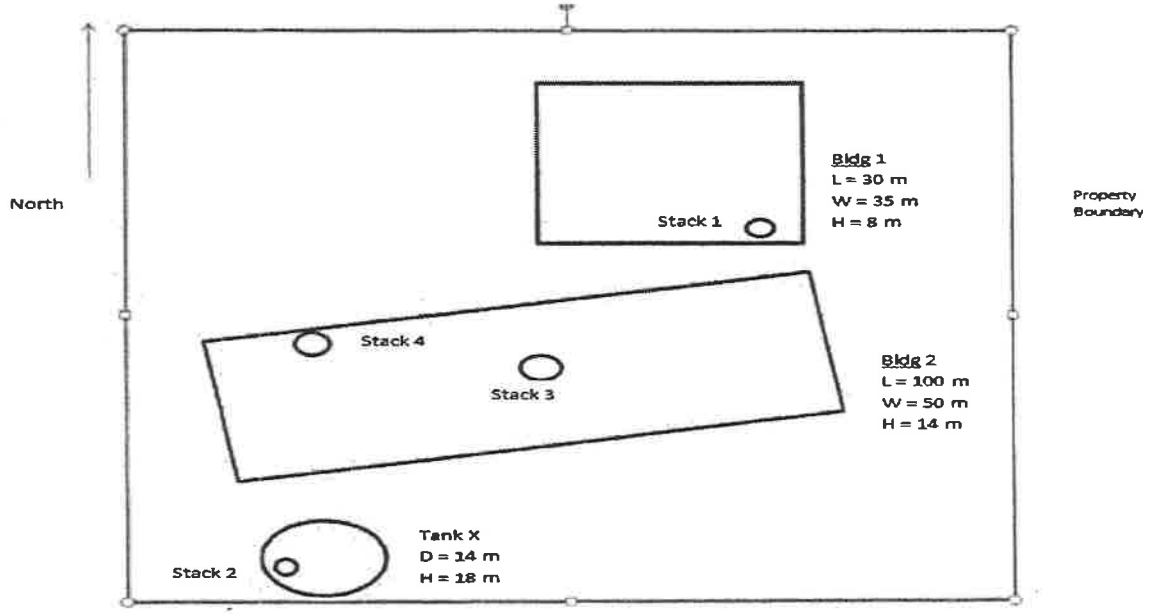


Building Downwash

- Structure name:
- Height (ft):
- Length max. (ft):
- Width min. (ft):
- Projected Width - only needed if height is greater than width (ft):
- Distance from stack to structure (ft):
- Stack Influence Area ("nearby structure") (ft):
- Is structure within the stack influence area (if no, then structure does not need to be evaluated)?
- GEP stack height for structure (ft):
- Is GEP stack height for structure greater than the emissions unit stack height?
  (if no, then the structure will not affect building downwash)

For AERSCREEN input, choose the structure which has the highest GEP stack height and is within the stack influence area (i.e. it is considered to be a "nearby building").

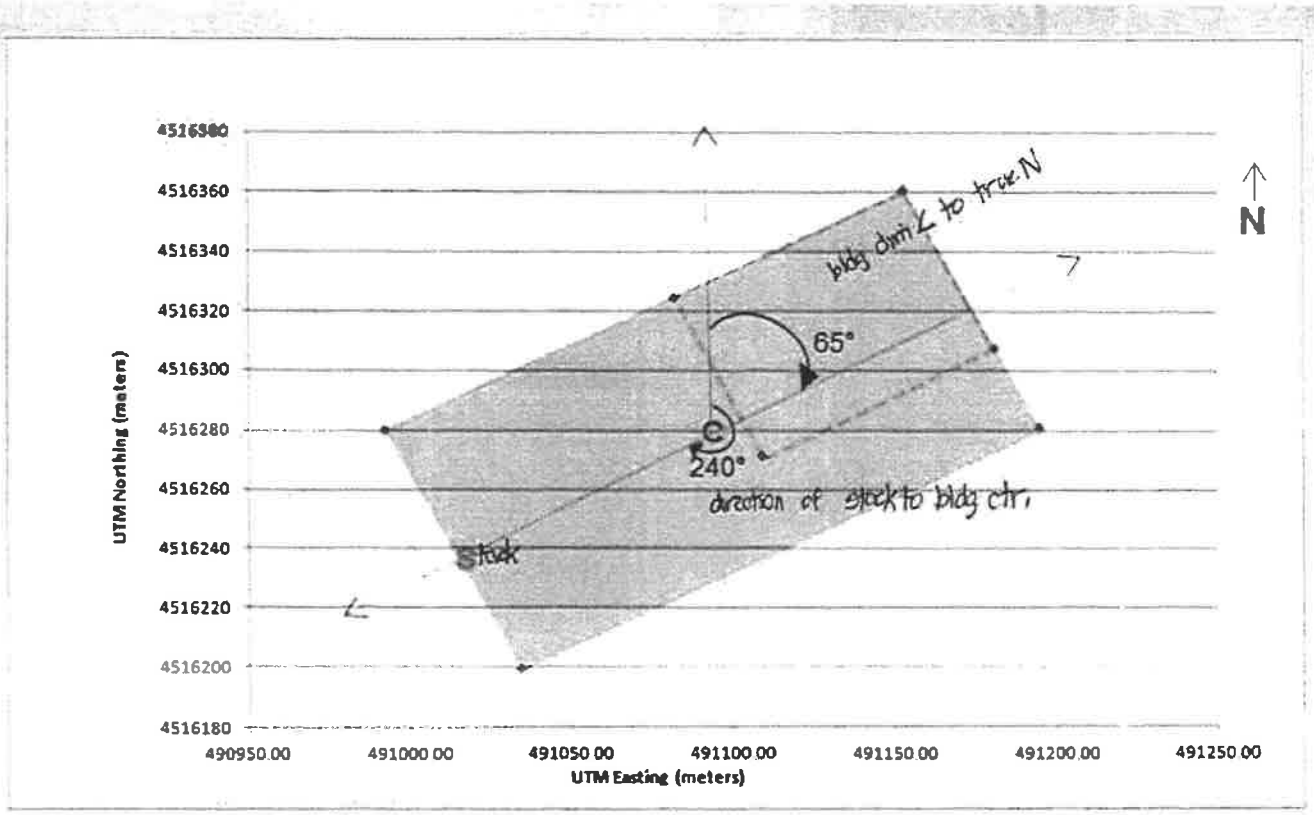
Building Downwash- Example



Structure	Height (m)	Width (m)	Length (m)	GEP (m)	Region of Influence (5 L, m)	Stack s Within 5L
Building #1	8	30	35	20	40	1
Building #2	14	50	100	35	70	1,3,4
Building #3	13	14	14	32.5	65	2

L lesser dimension height or projected width
b GEP = 8 + (1.5 * 8)
c GEP = 14 + (1.5 * 14)
d GEP = 13 + (1.5 * 13)

Building Downwash- Model Input



S = Stack C = Building Center