



# Technical Working Group WMGR028



Building and Connecting Communities

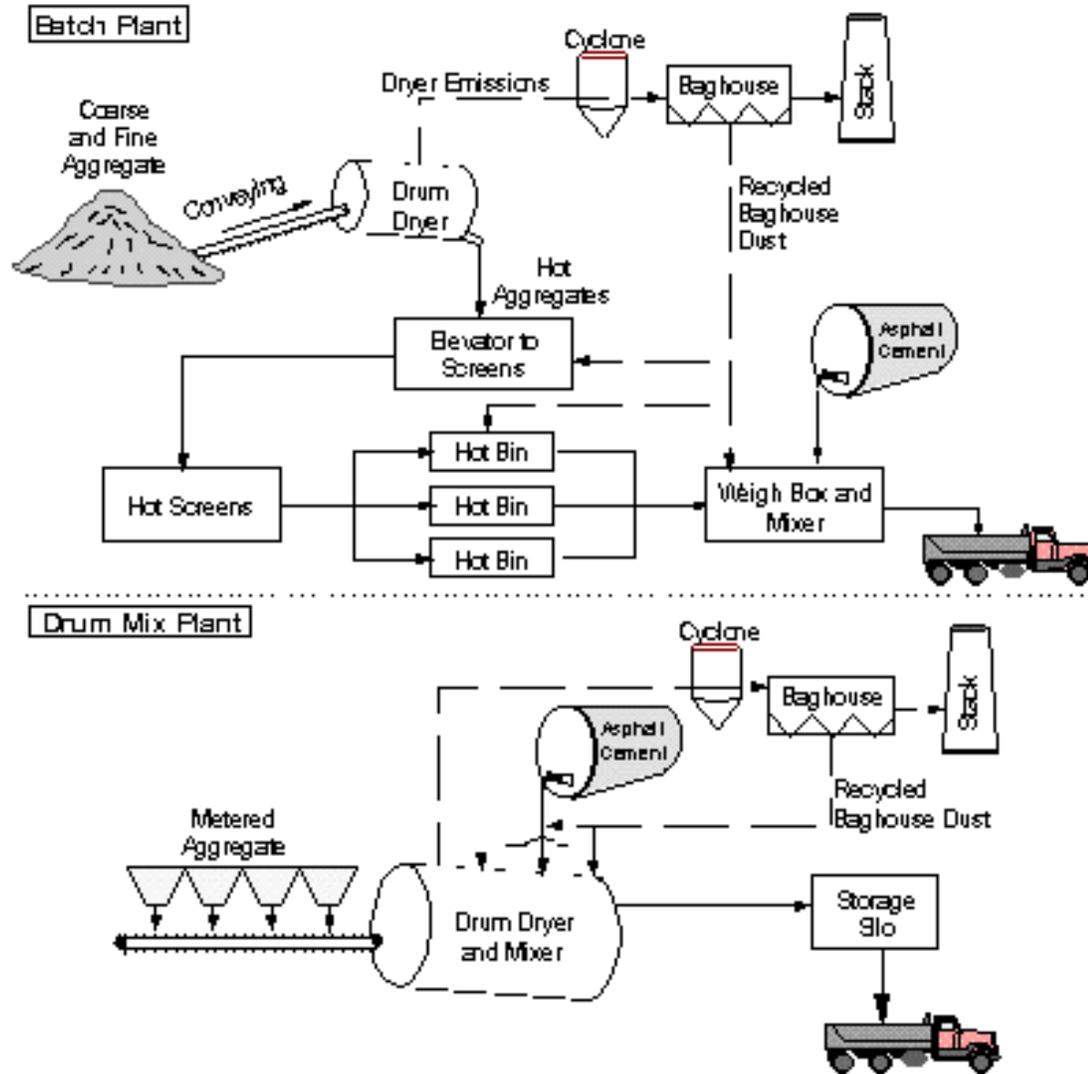
- Define Baghouse Fines and what makes them a waste?
- Current Regulations
  - PA
  - How many other states regulate?
- Technical Working Group
- WMGR028
  - History
- Proposed Changes to the Permit
- Co-Product Determination



# Baghouse Fines

- Hot mix asphalt baghouse fines are dust particles that are captured from the exhaust gases of asphalt mixing plants
- Baghouses consists of several rows or compartments of fabric filters that collect the dust during the operation of a hot mix asphalt plant
- The baghouse on an asphalt plant directly relates to the efficiency of the plant





- Batch plants use unsorted aggregates, dried/screened, stored and fed into mixer
- Drum mix plants use pre-sized aggregate combined with preselected mix design proportions
- Baghouse fines collected may be routed directly to the production facility or stored onsite for subsequent use

# Wasteful

- Mineral fines are not seen as waste when used:
  - In an appropriate application and
  - An environmentally responsible manner
- Carbonate aggregates
  - Limestone
    - Calcium carbonate
  - Dolomite
    - Calcium carbonate and magnesium carbonate
- Use can be similar to lime
  - Soil stabilization / improvement

- Storage?



# Current Regulation



BUREAU OF WASTE MANAGEMENT

DIVISION OF MUNICIPAL and RESIDUAL WASTE

GENERAL PERMIT WMGR028

BENEFICIAL USE OF BAGHOUSE FINES OR SCRUBBER POND  
PRECIPITATES FROM HOT-MIX ASPHALT PLANTS

Issued: August 1, 2017

Expires: August 1, 2027

# Troubles in Pennsylvania



- Is there a limit to regulations?
- Concurrence of all DEP agencies
  - When there is regulatory overlap, who decides what?
- How do government agencies keep up with private advancements in industry?
- DOT needs and associated costs
- Storage

# How BHF are Regulated in USA

- “No permit required. Sometimes used back in the mix, sometimes for shoulder wedge base, sometimes wasted in a quarry”

- Kansas



# How BHF are Regulated in USA



- “No restrictions. Depending on the quarry, aggregate and plant configurations, many facilities are able to capture and reintroduce this material back into certain mixes. Producers need to be attentive and understand how these fines will impact mix matrix and quality”

- Massachusetts



# How BHF are Regulated in USA

- “No regulation/restriction on baghouse fines. One restricted use is lime treatments for farm fields – referred to EPA. Reuse back into the mix or as an aggregate filler is not restricted”
- New York

# History of PA Regulation



- 1990s Residual Waste Regulations
- Byproducts of industrial processes were automatically considered waste
- Implications for farming
- WMGR027 was original and 028 was made to allow for soil amendment condition – combined to what is being used now

# TWG Formation

- PAPA and PACA formed a working group to discuss industry issues with WMGR028
- Formed in late 2024 and meets monthly
- DEP Mining will defer to DEP Waste



# TWG Discussion Points

- 500 dry tons per acre
  - Time limit?
- Limits to the use of BHF
  - Stable and Definition
- Construction fill allowance
  - Provide examples
- Ability to mix with overburden as mine reclamation fill
  - Beneficial use of mine rec fill



# Proposed Changes to WMGR028

## Description



### GENERAL PERMIT NO. WMGR028

### BENEFICIAL USE OF BAGHOUSE FINES OR SCRUBBER POND PRECIPITATES

#### **A. Description.**

This general permit authorizes the use of baghouse fines or scrubber pond precipitates, generated by hot-mix asphalt plants, for the following beneficial uses:

- (i) an aggregate in roadway construction,
- (ii) a soil additive,
- (iii) a soil conditioner, or
- (iv) a component or ingredient in the manufacturing of construction products.

# Proposed Changes to WMGR028

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- (iii) a soil conditioner,
- (iv) a component or ingredient in the manufacturing of construction products,
- (v) a fill material to be used at mine and construction sites,
- (vi) a beneficial alkaline addition to neutralize acidity at coal mines and other sites, or
- (vii) Selling to ag-lime distributors for sale as soil conditioner or additive when mixed with other lime products.

# Proposed Changes to WMGR028

## Operating Requirements



### **C. Operating Requirements.**

1. Where used as an aggregate in roadway construction, the baghouse fines or scrubber pond precipitates must comply with the requirements of the Pennsylvania Department of Transportation's (PennDOT) specifications as outlined in their Publication No. 408 (Specifications).

# Proposed Changes to WMGR028

## C. Operating Requirements.

- 1 Where used as an aggregate in roadway construction, the baghouse fines or scrubber pond precipitates must comply with the requirements of the Pennsylvania Department of Transportation's (PennDOT) specifications as outlined in their Publication No. 408 (Specifications), or meet other government or industry standards

# Proposed Changes to WMGR028

## Operating Requirements



3. Where used as a soil additive or soil conditioner, the maximum amount of baghouse fines or scrubber pond precipitates applied to any site shall not exceed 500 dry tons per acre.
4. Beneficial use of baghouse fines or scrubber pond precipitates as aggregate for roadway construction or a component or ingredient in the manufacturing of construction products must conform with the applicable engineering, other professional, or industry practices and procedures as the raw material for which it is being substituted.
5. Baghouse fines or scrubber pond precipitates shall not be placed in direct contact with surface water or groundwater.

# Proposed Changes to WMGR028

- 3 When used as a soil additive or soil conditioner, the maximum amount of baghouse fines or scrubber pond precipitates applied to any site shall not exceed 20 dry tons per acre per year.
- 4 If baghouse fines are sold to a distributor for blending with their products, the maximum allowable tons sold to each distributor should not exceed fifty percent of the blended product(s) produced annually.
- 5 Beneficial use of baghouse fines or scrubber pond precipitates as aggregate for roadway construction or a component or ingredient in the manufacturing of construction products must conform with the applicable engineering, other professional, or industry practices and procedures as the raw material for which it is being substituted.

# Proposed Changes to WMGR028



- Current – 500 dry tons per acre
- Written – 20 dry tons per acre per year
- Thoughts?
- ADDED ability to sell to a distributor for blending
- Proposed dry tons per year:
  - 1,000
  - 5,000
  - 10,000
- Written – 50% of the blended products produced annually

# Proposed Changes to WMGR028

- Removed

and procedures as the raw material for which it is being substituted.

5. ~~Baghouse fines or scrubber pond precipitates shall not be placed in direct contact with surface water or groundwater.~~

6. ~~Equipment used for the storage and transportation of baghouse fines or scrubber pond~~



# Proposed Changes to WMGR028



12. The baghouse fines or scrubber pond precipitates authorized under this general permit shall not be used as a valley fill material, to fill open pits from coal or non-coal mining, or to level or bring an area to grade unless one of the following applies:
  - a. Baghouse fines or scrubber pond precipitates are used as embankment material, to level or bring an area to grade where a construction activity will commence within three (3) months after the placement of baghouse fines or scrubber pond precipitates.

# Proposed Changes to WMGR028

- 15 The baghouse fines or scrubber pond precipitates authorized under this general permit shall not be used as a valley fill material, to fill open pits from coal or non-coal mining, or to level or bring an area to grade unless one of the following applies:
- a. Baghouse fines or scrubber pond precipitates are blended to create a stable embankment material, to level or bring an area to grade where there is no risk of direct contact with surface or ground water.

# Proposed Changes to WMGR028

- 15 The baghouse fines or scrubber pond precipitates authorized under this general permit shall not be used as a valley fill material, to fill open pits from coal or non-coal mining, or to level or bring an area to grade unless one of the following applies:
- a. Baghouse fines or scrubber pond precipitates are blended to create a stable embankment material, to level or bring an area to grade where there is no risk of direct contact with surface or ground water.
  - b. For multi-phase construction projects (such as development of a commercial/industrial park), all baghouse fines or scrubber pond precipitates shall be covered within sixty (60) days of completion of fill placement, unless it is uncovered as a requirement of ongoing active phase construction.
  - c. When approved for use as a soil additive, conditioner, or a fill material as part of an approved operations plan or the reclamation plan for permitted surface mining operations.

# Proposed Changes to WMGR028

- c During the calendar year (commencing on January 1), the baghouse fines or scrubber pond precipitates generated, received, beneficially used, or transferred to another site for beneficial use, must equal at least 75%, by weight or volume, of the baghouse fines or scrubber pond precipitates received or accumulated at the beginning of the period. The 75% requirement must be applied to each waste that is beneficially used in the same way (i.e., baghouse fines should be counted separately from scrubber pond precipitates, and baghouse fines or scrubber pond precipitates from different generators or generating processes should be counted separately).
- d Baghouse fines or scrubber pond precipitates may be transferred, stored and distributed to/from PADEP permitted mine sites if conditions exist in the PADEP mine permit to allow this practice in compliance with this permit.

# Proposed Changes to WMGR028

## Sampling and Analysis

**Table 1<sup>(7)</sup>**

### Chemical Concentration Limits

Constituents	Option 1 <sup>(2)</sup>	Option 2 <sup>(3)</sup>		Option 3 <sup>(6)</sup>	
	Total (mg/kg)	Total (mg/kg)	Leachate <sup>(1)</sup> (mg/L)	Total (mg/kg)	Leachate <sup>(1)</sup> (mg/L)
Arsenic	29	29	0.25	29	0.05
Barium	1,000	15,000	50	15,000	2
Cadmium	2.5	47	0.125	47	0.005
Chromium (Total)	50	94	2.5	94	0.1
Copper	1,500	1,500	25	1,500	1
Lead	112.5	500	0.125	500	0.005
Mercury	1	66	0.05	66	0.002
Molybdenum	18	18	4.375	18	0.175
Nickel	50	420	2.5	420	0.1
PHC <sup>(4)</sup> (Total)	500	500	-	500 <sup>(5)</sup>	-
Selenium	25	1,100	1	1,100	0.05
Zinc	1,000	2,800	50	2,800	2
pH (standard units)	> 5.5	> 5.5	-	> 5.5	-

# Proposed Changes to WMGR028

- (6) Options 1 and 2 may be used in combination on a constituent-specific basis.
- (7) If any constituent is present in a parent rock sample, the amount of the constituent found in the parent rock shall be removed from the constituent amount reported in the baghouse fines or scrubber pond precipitates results.

# Proposed Changes to WMGR028

## APPENDIX A

### ACCEPTABLE USES AND RESTRICTIONS GENERAL PERMIT NO. WMGR028

The beneficial use of baghouse fines or scrubber pond precipitates, generated by hot-mix asphalt plants is limited to the following: (i) an aggregate in roadway construction, (ii) a soil additive, (iii) a soil conditioner, or (iv) a component or ingredient in the manufacturing of construction products. The beneficial use of baghouse fines or scrubber pond precipitates must comply with the acceptable uses and use restrictions below.

#### A. ACCEPTABLE USES:

1. Where used as an aggregate in roadway construction, the baghouse fines or scrubber pond precipitates must comply with the requirements of the Pennsylvania Department of Transportation's (PennDOT) specifications as outlined in their Publication No. 408 (Specifications), and conform with applicable engineering, other professional, or industry practices and procedures as the raw material for which it is being substituted.
2. The beneficial use of baghouse fines or scrubber pond precipitates as a component or ingredient in the manufacturing of construction materials must meet the applicable standards set forth by the American Society of Testing and Materials (ASTM), or other national, state, or industry standard for which it is being used.
3. Where used as a soil additive or soil conditioner, the maximum amount of baghouse fines or scrubber pond precipitates applied to any site shall not exceed 500 dry tons per acre.

# Proposed Changes to WMGR028

3. Where used as a soil additive or soil conditioner, the maximum amount of baghouse fines or scrubber pond precipitates applied to any site shall not exceed 20 dry tons per acre per year. Where blended with a lime distributors product, the maximum allowable tons sold to each distributor should not exceed fifty percent of the blended product(s) they produce annually.
4. Where used as a fill material in mines or construction sites, the baghouse fines or scrubber pond precipitates must satisfy the conditions of the PADEP mine permit or the compaction and stability requirements of the construction fill site.
5. Where used as an alkaline addition to control acidity at coal mines or other sites, the baghouse fines or scrubber pond precipitates must satisfy the conditions of the PADEP mine permit or other PADEP permits.

# Coproduct Determination



# Coproduct Determination

- Definition
  - 25 pa. Code Chapter 287 - Solid Waste Management Act
  - Evaluate harm
- Determination
  - Specified conditions
  - Incidental use
- Update to Coproduct Regulations
  - April 11, 2025 Regulatory Agenda item
- Reclaimed Asphalt Pavement (RAP)



# Next Steps



- Feedback on proposed changes
- Contact DEP Waste
  - SME help with revisions
- Coproduct effort?

# Questions?

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