

The Village of Newtown

Mark G. Kobasuk, Mayor

3537 Church Street

Newtown, Ohio 45244

(T) 513-561-7097 | (F) 513-561-7555 | www.newtownohio.gov | mkobasuk@newtownohio.gov

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Submitted via Electronic and U.S. Mail

Mr. Andrew Hall - Andrew.Hall@epa.ohio.gov

Permit Review/Development Section

Ohio EPA, DAPC

50 West Town Street, Suite 700

PO Box 1049

Columbus, Ohio 43216-1049

Mr. Michael Kramer - Mike.Kramer@hamilton-co.org

Permit Section Manager

Southwest Ohio Air Quality Agency

250 William Howard Taft Road

Cincinnati, Ohio 45219

Re: Comments on Draft Air Pollution Permit-to-Install and Operate (PTIO) P0129277
Valley Asphalt, Plant #14, Newtown, Ohio, 400 TPH Drum Mix Plant

Dear Sirs:

The Village of Newtown, Ohio (hereinafter the "Village") respectfully submits the following comments regarding Draft PTIO P0129277 dated January 14, 2021 to Valley Asphalt, Plant #14. The draft permit is for the installation of a new 400 tons per hour (TPH) counterflow drum mix hot mix asphalt plant in Newtown to replace an existing drum mix plant. The permit would also allow installation of three additional hot mix asphalt (HMA) product storage silos.

The Village has prepared its comments following a comprehensive review of the draft permit as well as PTI/PTIO Application A0067465 submitted by Valley Asphalt on October 15, 2020. The Village submitted a public records request to Ohio EPA and the Southwest Ohio Air Quality Agency (SOAQA) on February 5, 2021 for additional documentation regarding this permitting action. We received SOAQA's response to that request on February 10th. We reserve the right to submit additional comments on this draft permit during the public hearing. Our comments fall into four general areas:

- Technical deficiencies of Valley Asphalt's permit application,
- Review of best available technology (BAT) by Ohio EPA and SOAQA,
- Air quality analysis of the proposed drum mix plant, and
- General comments and requested changes to the draft permit.

With these comments the Village expresses its serious concern that issuance of draft PTIO P0129277, without further analysis and significant revision, will authorize degradation of the air quality in and around the Village of Newtown. As Mayor, I have received countless complaints about air quality in the Village over the past five years. Working with Ms. Kerri Castlen of SOAQA, the SOAQA and Ohio EPA are conducting an air monitoring program in the Village to address the residents' concerns. The monitoring program commenced in September 2020.

Technical Deficiencies of Permit Application

1. Valley Asphalt submitted an administratively complete permit application providing the absolute minimum amount of information required to pass the validation check within Ohio e-Biz Air Services. However, as described below, the application was technically deficient and did not provide adequate information and documentation to allow SOAQA to review and process the application.
2. The application did not provide detailed emission calculations to support the requested allowable emission rates in terms of 'lbs/hr' and 'tons/year' for particulate emissions (PE/PM), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), organic compounds (OC), volatile organic compounds (VOC). No estimates were provided in the application for PM₁₀ or PM_{2.5}.

It appears from the Village's review of SOAQA's public records, the SOAQA copied and re-dated hand-written calculations provided by Valley Asphalt in November 2007 as part of the application for PTI 14-05985, which was the initial authorization to construct the existing drum mix plant. The Village questions the appropriateness of using emission factors and emission calculations from 2007 for an application for a new emissions unit in 2020.

3. The application did not account for condensable particulate matter and its contribution to total for PM₁₀ or PM_{2.5} emissions.
4. The application did not provide the derivation of the of PE, CO, or VOC emission factors used to estimate emissions from HMA product silo filling and truck loadout.
5. The application did not provide estimates of hourly or annual emissions or detailed emission calculations for hazardous air pollutants (HAPs) or toxic air contaminants regulated by Ohio EPA under Ohio Administrative Code (OAC) Chapter 3745-114.
6. The application did not adequately address best available technology.

Section II – Specific Air Contaminant Source Information, Item 4. Best Available Technology (BAT) of the application requires a description of the measures Valley Asphalt proposes as BAT for the new plant. As defined in the OAC,

Best available technology or "BAT" means any combination of work practices, raw material specifications, throughput limitations, source design characteristics, an evaluation of the annualized cost per ton of air pollutant removed, and air pollution control devices that have been previously demonstrated to the director of environmental protection to operate satisfactorily in this state or other states with similar air quality on substantially similar air pollution sources.

The instruction for Item II.4. reads: "For each pollutant for which the Requested Allowable in the above table exceeds 10 tons per year, BAT, as defined in OAC 3745-31-01, is required. Describe what has been selected as BAT and the basis for the selection." For the new drum mix plant, the 10 ton-per-BAT threshold is exceeded for PE/PM, for PM₁₀ or PM_{2.5}, SO₂, NO_x, CO, and VOC. Ohio EPA typically requires permit applicants to describe the air pollution control measures they propose for their new emissions unit. It is common practice for BAT analyses to take the form of a separate document attached to the application.

In this case, Valley Asphalt provided a one-word response "Baghouse". While entering even a single letter within that response box would enable the application to pass administrative validation, the complete absence of an adequate analysis and description of BAT should have caused an immediate rejection by SOAQA of this application as technically deficient. The application is further deficient as it does not address BAT for fugitive emission sources at all.

BAT

7. The draft permit limits filterable PE from the dryer/drum baghouse to 0.03 grains per dry standard cubic foot of exhaust (gr/dscf). While this PE grain loading is more stringent than the PE limit given in the federal emissions standards for new asphalt plants (40 CFR Part 60, Subpart I), it may not reflect modern baghouse design and fabric filter performance. The federal New Source Performance Standards (NSPS), Subpart I limits PE emissions from new asphalt plants to 0.04 grains per dry standard cubic foot (gr/dscf) of exhaust gas flow. This NSPS subpart was promulgated in the mid-1970s and is very outdated. By recognizing improvements in baghouse technology and fabric filter performance, Ohio EPA began issuing air permits to new asphalt plants with a BAT-based PE limit of 0.03 gr/dscf in the mid-2000s. Construction of the existing Valley Asphalt plant in Newtown was authorized by Ohio EPA Permit-to-Install 14-05985 issued January 29, 2008. PTI 14-05985 required a PE limit of 0.03 gr/dscf consistent with Ohio EPA's opinion on BAT at the time.

Valley Asphalt plans to use the same baghouse from its existing plant that is being replaced to control PE emissions from the new drum mix plant. The BAT limit of 0.03 gr/dscf for this particular baghouse was established over 13 years ago. Fabric filter performance has improved greatly since that time resulting in the capability to achieve lower baghouse outlet grain loadings.

A technical paper published by Astec Inc., a leading manufacturer of hot mix asphalt plants and equipment technology, indicates properly designed baghouses with a good air to cloth ratio 'rarely results in stack particulate emissions greater than 0.02 grains per dscf and often results in emission levels below 0.01 grains/dscf. [Astec Inc. Technical Paper T-139 Baghouse Applications].

U.S. EPA technical information describes well-designed and operated baghouses being capable of reducing PE to less than 0.010 gr/ft³ or lower. [U.S. EPA Air Pollution Control Technology Fact Sheet, EPA-452/F-03-025]

An objective of the requirement for new sources to employ BAT is to continue improvement and advancement of air pollution control system performance, ultimately resulting in better air quality due to lower emissions. To that end, the Village believes it is reasonable for Ohio EPA and SOAQA to request Valley Asphalt to evaluate the technical feasibility and cost-effectiveness of replacing the bags in its baghouse with a type capable of achieving a PE emission rate for the new drum mix plant lower than 0.03 gr/dscf.

Draft PTIO P0129277 should not be issued by Ohio EPA until Valley Asphalt submits a complete analysis of the technical feasibility and cost-effectiveness of achieving a lower baghouse stack PE emission rate.

8. The draft permit does not describe what constitutes BAT for the control of PE and VOC emissions potentially emitted from HMA product transfer, storage silos, and truck loadout. As noted above, Valley Asphalt did not address this topic in its permit application. This significant oversight must be

corrected before a permit is issued. From internet searches the Village is aware of asphalt plant equipment suppliers, such as Astec Inc., that provide equipment and drum mix plant designs that collect and control fugitive emissions from HMA product handling and storage.

[\[www.astecinc.com/products/emission-control.html\]](http://www.astecinc.com/products/emission-control.html)

Effective fugitive emission collection involves sealing all HMA product transfer points with ductwork pickup points at each location of fugitive emission release. Once collected, the fugitive emission-laden gas stream can be routed by ductwork to the dryer burner for incineration or to some form of control device for collection. Control systems such as electrostatic precipitators, multi-stage media filtration systems, and fiber mist collectors are technically feasible options described in the literature. [Astec Inc. Technical Paper T-143 Hot Mix Blue Smoke Emissions]

Draft PTIO P0129277 should not be issued by Ohio EPA until Valley Asphalt submits a complete analysis of the technical feasibility and cost-effectiveness of capturing and controlling fugitive emissions from HMA product storage and handling.

Air Quality Analysis

9. Ohio EPA and SOAQA failed to follow its internal Division of Air Pollution Control Engineering Guide #69: Air Dispersion Modeling Guidance by not requiring Valley Asphalt to evaluate the ambient air quality impact of SO₂ emissions from the proposed plant.

Per Engineering Guide #69, Question 38. How do I model hot mix asphalt plants?

New or modifying hot-mix asphalt plants seeking to utilize No. 4 fuel oil, No. 6 fuel oil, and/or on-spec used oil as a fuel source, and/or seeking to utilize slag aggregate as part of their raw material mix will be required to demonstrate via dispersion modeling that the 2010 1- SO₂ NAAQS is not threatened. DAPC staff have developed a three-step methodology for this demonstration, which can be found on the DAPC modeling website.

Note: the 3-step methodology is described in an Ohio EPA interoffice memo, dated February 18, 2018, subject: Hot-Mix Asphalt Plant Modeling for 1-hour Sulfur Dioxide NAAQS.

Valley Asphalt requested in its application to use No. 4 fuel oil and on-spec used oil as fuel sources as well as using slag aggregate in its raw material mix. The Village has found no evidence that an air quality dispersion modeling assessment of proposed SO₂ emissions was performed by Valley Asphalt, Ohio EPA, or SOAQA.

Draft PTIO P0129277 should not be issued by Ohio EPA until Valley Asphalt demonstrates potential SO₂ emissions in this permit do not cause an exceedance of the 1-hour SO₂ NAAQS.

10. The Village believes the Ohio EPA and SOAQA have not fulfilled their mission to attain and maintain air quality at a level that protects public health and the environment by not requiring Valley Asphalt to evaluate the ambient air quality impact of PM_{2.5} emissions from the proposed plant. Following guidance and direction provided in the Ohio EPA policy statements made in Questions #19 through 22 of Engineering Guide #69, the Village contends there is sufficient justification to require Valley Asphalt to assess by dispersion modeling whether the ambient air quality impact of PM_{2.5} emissions from the new drum mix plant meet Ohio EPA's generally acceptable incremental impacts (GAILs) for PM_{2.5}.

Proposed PE emissions from the new drum mix plant are given in the draft permit as 10.40 tons per year. The permit describes the use of PE emissions as a surrogate for PM₁₀ and PM_{2.5} emissions; thus, the permit allowable PM_{2.5} emissions are also 10.40 tons per year. As noted in Comment 14 below, we think the PM_{2.5} emission rate is greater than 10.40 tons per year once condensable particulate matter (CPM) is properly included in the dryer baghouse stack emission rate.

A proposed PM_{2.5} emission rate of 10.40 tons per year from all sources or emissions units contained in the draft permit exceeds the 10 tons-per-year significant emission rate (SER) given in Table 3 of Engineering Guide #69. This triggers Ohio EPA's policy to limit the incremental impact on ambient air quality of new sources. The Village believes that even if the proposed PM_{2.5} emissions were less than 10 tons per year, it would be appropriate for Ohio EPA to use its discretion to require the air quality modeling analysis of stack and fugitive PM_{2.5} emissions.

We believe it is imperative to include fugitive emissions in the analysis, particularly those from the HMA product storage silos. Engineering Guide #69, Question 22 gives a strong basis to include fugitive PM_{2.5} emissions. The response to Question #22 states that fugitive emissions are not generally included in state-only modeling

unless factors such as source size, tons of emissions, particle size, pre-existing concerns or proximity to other sources or citizen populations indicate that a modeling review is warranted. [Emphasis added by Ohio EPA in Engineering Guide #69]

The Village has found no evidence that an air quality dispersion modeling assessment of proposed PM_{2.5} emissions was performed by Valley Asphalt, Ohio EPA, or SOAQA.

Draft PTIO P0129277 should not be issued by Ohio EPA until Valley Asphalt demonstrates potential PM_{2.5} emissions in this permit do not cause an exceedance of the 24-hour and annual Ohio EPA GAIIs for PM_{2.5}.

General Comments and Requested Changes

11. Correct the proposed allowable NO_x emission rate to 13.95 tons per year in Items 4 and 7 in the permit strategy write-up and in permit condition C.1.f)(1)f.
12. Add OAC rule 3745-15-07, Air Pollution Nuisances Prohibited as an applicable requirement to condition C.1.b)(1).
13. Condition C.1.b)(2)a.iii. Revise the second sentence to read:

Such equipment shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust from the hot aggregate elevator, the vibrating screens, weigh hopper, hot mix asphalt product storage silos, truck loadout operation, and other points of fugitive emissions.

14. Condition C.1.b)(2)b.i. The PE emission factor of 0.033 lb per ton of asphalt appears to only account for the filterable fraction of particulate and as such cannot be used as a surrogate for PM₁₀ and PM_{2.5} emissions throughout this permit.

By definition, PM₁₀ and PM_{2.5} includes condensable particulate matter (CPM) [OAC rule 3745-31-01(NNNNN)(1)(d)]. The allowable PE emission rates of 0.03 gr/dscf and 0.033 lb/ton of asphalt

produced are listed in condition C.1.f)(1)a. with the applicable compliance test methods subsequently listed. Per condition C.1.f)(1)a.v. Reference Method 5 is to be used to demonstrate compliance with the respective PE limits. Method 5 measures filterable particulate only.

The Village agrees that Method 5 is appropriate to use to determine compliance with the baghouse stack PE limit of 0.03 gr/dscf. The failure to list Reference Method 202 as an applicable test method in the draft permit indicates to the Village that the PE factor of 0.033 lb per ton of asphalt produced represents only filterable particulate. To correctly account for the CPM contribution to the total PM₁₀ and PM_{2.5} emissions from the baghouse stack, the Village recommends adding a CPM factor of 0.0197 lb per ton of asphalt produced (AP-42 Section 11.1, Table 11.1-3) to the filterable PE factor 0.033 lb/ton.

The limits given in condition C.1.b)(2)b.1. should therefore read:

10.40 tons of PE/rolling 12-month period (stack and fugitive) and 0.033 lb of PE per ton of asphalt produced (stack), and

14.84 tons of PM₁₀/PM_{2.5} per 12-month period (stack and fugitive) and 0.053 lb of PM₁₀/PM_{2.5} per ton of asphalt produced (stack)

15. Can Ohio EPA explain and defend its use of what appear to be arbitrary emission factors for NO_x, CO, and VOC from the proposed drum mix plant? The Village understands from discussions with the SOAQA these universal factors are somehow based on State-wide emission testing of hot mix asphalt plants and that there is no on-going evaluation of the emission factors unless the facility fails a stack test.
16. The NO_x, CO, and VOC emission factors given in condition C.1.b)(2)b.ii.-iv. should be clarified as 'lb per ton of asphalt produced (stack)'.
17. Condition C.1.d)(7). Revise the first sentence to read:

The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the hot aggregate elevator, the vibrating screens, weigh hopper, hot mix asphalt product storage silos, and truck loadout operation.

18. Condition C.1.f)(1)a. The draft permit does not include any requirement for a compliance assessment of the allowable stack emission factors for NO_x, CO, or VOC. Similar to the requirement for PE, this omission should be corrected to include an initial compliance test to be conducted within 18 months of permit issuance for these three pollutants as well.

The Village of Newtown submits these comments in good faith. Our hope is that Ohio EPA and SOAQA diligently consider these comments and acknowledge our concerns with the draft permit. We believe that a permit can be issued to Valley Asphalt that allows them to operate in an efficient and profitable manner, while not causing an adverse impact on the air quality in Newtown and surrounding Anderson Township. We trust that Ohio EPA and SOAQA share that belief.

On behalf of the Village and surrounding communities, thank you.

Messrs. Andrew Hall, Ohio EPA and Michael Kramer, SOAQA
February 17, 2021
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Sincerely,

A handwritten signature in black ink that reads "Mark G. Kobasuk". The signature is written in a cursive style with a large, stylized initial "M".

Mark G. Kobasuk
Mayor, Village of Newtown

Cc: Hearing Clerk, Ohio EPA, submitted electronically to HClerk@epa.ohio.gov
Kerri Castlen, SOAQA
Dan Crago, Valley Asphalt