



**Environmental
Protection Agency**

John R. Kasich, **Governor**
Mary Taylor, **Lt. Governor**
Scott J. Nally, **Director**

June 1, 2012

Mr. Robert Boehk
Erie Materials, Inc.
4507 Tiffin Road
Sandusky, Ohio 44870

Re: Response to Erie Materials (0322020256) letter dated January 31, 2012.
regarding the Notice of Violation (NOV) issued to the facility located at 9920
Portland Road, Castalia, OH 44824 on December 19, 2011, by this office.

Dear Mr. Boehk:

This letter shall serve as a response to Erie Materials NOV response letter dated
January 31, 2012, regarding the above referenced facility and specifically emissions unit
P901. In the response letter Erie Materials indicated that obtaining compliance was
unreasonable and unattainable due to the following:

- Ohio EPA forced Erie Materials to accept unreasonable and unattainable emissions limitations
- Weather conditions contributed to failing stack test results
- Aggregate used in the asphalt mix contains hydrocarbons leading to increased volatile organic compound (VOC) emissions
- Production rates during stack testing does not represent typical or normal operations

Based on our review of your letter this office is providing the following comments and determination to address the bullet points above and the contents of the company's compliance plan:

Establishment of permit limitations:

It is Erie Materials' contention that the Ohio EPA "forced" the company into taking unreasonably low emission limits. In an effort to clarify this situation, please find the following summary regarding emissions unit P901 and the establishment of the short term limits associated with this unit. The original permit for this emissions unit was Permit to Install (PTI) # 03-8713, issued on August 9, 1995. The limits established in the permit were based off of a permit application supplied by the company.

The company's basis for the requested limitations is unknown but the emission levels were determined to meet Best Available Technology (BAT) requirements. The following table presents the company supplied information regarding asphalt plant emissions:

Pollutant	Limit (lbs./hr.)	Limit (lbs./ton of asphalt produced)
CO (Carbon Monoxide)	4.0	0.01
NOx (Nitrogen Oxide)	16.0	0.04
SO2 (Sulfur Dioxide)	22.7	0.57
PE (Particulate Emissions)	0.04 gr/dscf	

A stack testing event conducted on October 2 and 3, 2001, documented compliance with the NOx and PE limitations listed above and an exceedance of the CO emission limit listed above while burning natural gas. This testing event also documented the VOC emissions from this unit to which no emission limit had been established.

Pollutant	Test result (lbs./hr.)	Test results (lbs./ton of asphalt produced)	Compliance
CO (10/2)	388.7	1.02	non-compliance
CO (10/3)	465.9	1.22	non-compliance
NOx	7.65	0.02	compliance
VOC	192.9	0.50	no limit established
PE	0.0311 gr/dscf		compliance

This emissions testing indicated that, violations of major source permitting for Prevention of Significant Deterioration (PSD) and Title V had occurred due to the absence of any federally enforceable restrictions to limit the potential to emit for this facility below major source levels for both Title V and PSD. As part of the resolution to the incurred violations the company submitted a permit modification to PTI# 03-8713 to address these exceedances. The permit modification also involved the submission of a "Best Available Control Technology" (BACT) analysis to address PSD violations in accordance with U.S. EPA's "Guidance on the Appropriate Injunctive Relief for Violations of Major New Source Review Requirements" (Memorandum). An initial BACT analysis was submitted on April 2, 2003, and subsequent BACT analyses for CO and VOC were submitted on August 15, 2006, and December 20, 2006.

During the evaluation of the BACT analyses a stack testing event conducted on September 27 and 28, 2006, documented the following results which demonstrated compliance with the NOx and SO2 limits established in PTI# 03-8713 and exceedances of the CO and PE limitations while burning natural gas. This testing event also documented the VOC emissions from this unit to which no emission limit had been established.

Pollutant	Test result (lbs./hr.)	Test results (lbs./ton of asphalt produced)	Compliance
CO	60.7	0.15	Non-compliance
NOx	7.27	0.02	compliance
SO2	0.35	8.99x10 ⁻⁴	compliance
VOC	38.5	0.097 (~0.1)	no limit established
PE	0.05 gr/dscf		Non-compliance

The BACT analysis submitted on August 14, 2006, and revised on December 1, 2006, requested that emission limit for CO be modified and the emission limit for VOC be established based on the testing conducted on September 27 and 28, 2006, (listed above). The requested BACT analysis limits were calculated as follows:

$$(67.3 \text{ lbs. CO/hr. max run \#3})(391 \text{ tons/hr. run 3}) = 0.172 \text{ lb. CO/ton asphalt produced.}$$

$$(38.5 \text{ lbs. VOC/hr. max run \#1})(394 \text{ tons/hr. run 1}) = 0.0963 \text{ lb. VOC/ton asphalt produced.}$$

Standard practice at the time for establishing emission limitations based of stack testing results is to utilize the average emissions from all three runs and the maximum process weight rate of the unit. Implementing standard practice, the submitted calculations were modified slightly based on the average emission rate during testing and the maximum process weight rate of the unit which is 400 tons/hr. Based on these numbers the emissions limits were calculated as follows:

$$(60.7 \text{ lbs. CO/hr.})(400 \text{ tons/hr.}) = 0.15 \text{ lbs. CO/ton asphalt produced}$$

$$(38.5 \text{ lbs. VOC/hr.})(400 \text{ tons/hr.}) = 0.1 \text{ lbs. VOC/ton asphalt produced}$$

In establishing emission limits for NOx, SO2 and PE this office utilized the PTI# 03-8713 modification application calculations submitted by the company. These changes were incorporated into PTI# 03-14045. This permit was issued on August 18, 2009, and then revoked on September 9, 2009.

The revocation and re-issuance of the permit was due to the company's request to add slag to the permit and to allow the permit to be issued draft. Moving forward with the permitting process, the permit application information for PTI# 03-14045 was applied to the new Permit to Install and Operate (PTIO) P0105371. The emission limits requested in the permit application calculations while burning natural gas are as follows:

Pollutant	Requested limit ¹ (lbs./ton)	Limit established (lbs./ton)	Limits established (lb./hr.)
NOx	0.019	0.026	10.4
SO2	0.001	0.0034	1.36
PE	0.033 ²	0.033	13.2
CO	0.172 ³	0.15	60.0
VOC	0.0963 ³	0.1	40.0

1. Limits that were requested by the company in permit application calculations for PTI# 03-14045
2. Based on AP-42 emission factor (section 11.1-13, table 11.1-3)
3. Established in BACT analysis submitted on December 1, 2006.

As requested, these limits were included in P0105371 issued July 14, 2010. Based on this information it is the determination of this office that emission limitations for emissions unit P901 have been established through appropriate procedures and regulatory requirements which involved limitations requested by the company through permit applications, BACT analyses, and emissions testing.

Weather conditions during the stack testing event conducted on September 13, 2011:

This office acknowledges that the facility expressed concern regarding potential wet conditions during the testing event and the subsequent effect it may have on the unit in terms of meeting maximum process weight rate during testing. Ohio EPA would like to stress that the decision to go forth with testing was the decision of Eire Materials. P901 is permitted under PTIO P0105371 as a 400 ton per hour hot mix asphalt plant with limitations established as indicated in the section above. These limitations are based on the emissions unit operating at a maximum of 400 tons per hour at a maximum throughput of 500,000 tons per rolling 12-month period. The emissions unit is required to operate within the permitted limits at all times. There is not a provision in the permit exempting the company from meeting the limits when conditions are not optimal for plant operation nor is there a provision in the permit that restricts the company to less than 400 tons per hour when conditions are not optimal in order to make sure the emissions unit is meeting the permit limits.

Wet conditions may present a challenging operating environment but compliance must still be demonstrated and based on the stack test results for the September 13, 2011, test, the only thing that has been verified is that under the condition of the material on test day, which the company classifies as "wet" and running the emissions unit at an average of 363.75 tons per hour, the unit is not in compliance with the permitted limits for SO₂, NO_x, VOC and CO. It is the responsibility of the company to show compliance with permitted limits. If the company wishes to conduct testing under numerous material conditions and various production rates to determine a, material condition to production rate correlation, and submit the data for review, his office would be willing to look into the feasibility of the inclusion of multiple ton per hour production restrictions, based on material condition, in the permit.

Aggregate:

This office received a Supplemental BACT analysis from the company dated August 8, 2011. The BACT analysis was under review by this office when the company conducted the stack testing event on September 13, 2011. The following table summarizes the current permit limits, the September test results and the limits proposed by the company in the BACT analysis.

Pollutant	P0105371 limits (lbs./ton)	September 13, 2011 test results (lbs./ton)	BACT proposed limits (lbs./ton)
NO _x	0.026	0.028	0.030
SO ₂	0.0034	0.0049	no new proposed limit
PE	0.033	0.023	0.038
CO	0.15	0.23	0.17
VOC	0.1	0.34	0.14

As indicated in the table, emissions for CO and VOC recorded during the testing event exceeded the proposed limits included in the BACT analysis. Ohio EPA was in the process of evaluating the company's supplemental BACT analysis but it is the position of the Ohio EPA that the stack test results from September 13, 2011, invalidated the contents of the submission based on the fact that Erie Materials was not able to demonstrate compliance with proposed BACT limitations so the supplemental BACT analysis was returned.

Production:

This office acknowledges the submittal of the production records for the 2010 and 2011 season and that the average rate of production for 2010 was 236.09 tons per hour and 228.91 tons per hour for 2011.

This office agrees that de-rating the unit to something less than 400 tons per hour may be a viable option in relieving some of the compliance issues at this facility.

Compliance Plan:

This office has reviewed the contents of the compliance plan and is providing the following comments at this time:

- Re-grading plant site - This office currently questions the extent to which this action would effectively decrease emissions and whether such action would be representative of the application of BACT.
- Additional pavement - As with re-grading, this office questions the extent to which this action would effectively decrease emissions and whether such action would be representative of the application of BACT.
- Storage buildings - This office sees promise for this action is a viable option for decreasing emissions but the current storage does not appear to be of a sufficient capacity and/or design to reduce emissions associated with processing "wet" material.
- Plant maintenance - This office acknowledges the submittal of the plant maintenance plan. The plan appears to be in compliance with the standard terms and conditions of PTIO P0105371.
- Burner Tuning - This office acknowledges the proposed utilization of employees certified in burner tuning or, if necessary, an outside consultant to achieve optimum burner tuning. This action correlates to testing requirement f)(3), specifically f)(3)b. of PTIO P0105371 regarding the burner tuning requirements.

To resolve non-compliance issues Ohio EPA is of the position that any compliance plan or program will need to involve a complete and thorough BACT analysis for CO and VOC. Erie Materials has submitted previous BACT analyses, which based on knowledge and information obtained from testing and operations over time, would not be considered complete. Erie Materials outlined weather or wet conditions and aggregate as being reasons for elevated emissions from asphalt plant operations.

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A complete and proper BACT analysis should be done in strict accordance with the 5-step "top-down" approach outlined in USEPA's "New Source Review Workshop Manual (Draft October 1990). A proper BACT analysis identifies and evaluates all available control options. As an example with wet conditions, a BACT analysis would look at the feasibility, cost, and resulting reduction in emissions for all techniques that could be applied to address elevated emissions associated with wet conditions. Such options would involve: raw material quality control program where the driest aggregate material is obtained from mining operations; effective stockpile management to reduce aggregate moisture content by covering all stockpiles, paving under stock piles and sloping stockpiles, operating at reduced rates under wet conditions, etc.,

Erie Materials outlined hydrocarbon content in aggregate mix material as being the reason for elevated VOC emissions. A supplemental BACT analysis was submitted that addressed the aggregate VOC content but failed to present the information in the proper 5-step "top-down" approach and additionally failed to address techniques such as blending of aggregate to reduce VOC emissions.

Ohio EPA is of the position that the best resolution for addressing the non-compliance issues at the Erie Material facility is to revisit the application of BACT by performing a completely new evaluation for CO and VOC that is done in strict accordance with the 5-step "top-down" approach indicated above.

Should you have any questions or comments concerning this letter, please feel free to contact me at (419) 373-3134 or electronically at wendy.licht@epa.state.oh.us.

Sincerely,

Wendy Licht
Division of Air Pollution Control

/llr

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