

Engineering Guide #24:

Application of Fugitive Dust Requirements to Affected Facilities

Question:

Since the requirements of OAC rule 3745-17-08 are written in general manner with no exemption levels, they potentially affect an extremely large number of sources. To ensure a consistent, reasonable approach in implementing these requirements, how should the field offices proceed in applying these requirements to the various fugitive dust sources which are subject to this rule?

Answer:

The following sections provide a general explanation of how OAC rule 3745-17-08 should be applied to fugitive dust sources which are subject to the rule:

Goal of OAC Rule 3745-17-08:

The primary goal of the requirements within OAC rule 3745-17-08 is to ensure the adequate control of fugitive dust sources which are located in those areas identified in Appendix A of OAC rule 3745-17-08 (hereinafter "Appendix A areas"). An affected fugitive dust source is any fugitive dust source not exempted by the "De Minimis" air contaminant source provisions of OAC rule 3745-15-05, and not specifically exempted under the authority of OAC rule 3745-17-08(A)(3), for which the use or installation of adequate control measures is both technically feasible and economically reasonable (i.e., cost effective). A control measure is "adequate" or acceptable if it is capable of minimizing, in accordance with good engineering design, or eliminating visible emissions of fugitive dust from the source.

Due to the general nature of OAC rule 3745-17-08, it does encompass an extremely large number of affected fugitive dust sources. The implementation of this rule in Appendix A areas is heavily dependent upon the use of sound engineering and technical judgments, on the part of the affected industries and the Ohio EPA field offices, in identifying those fugitive dust sources at an affected facility which are subject to the control requirements of paragraph (B) of OAC rule 3745-17-08.

Identification of All Fugitive Dust Sources at an Affected Facility:

In reviewing the adequacy of a fugitive dust control plan submitted for a facility which is located in an Appendix A area, or in consulting with or advising a company prior to the preparation of a control plan, it is very important for the field office personnel to conduct a thorough inspection of the facility, during dry weather conditions, to identify

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all of the fugitive dust sources that exist at the facility. Any process or operation that has visible emission of particulate matter which enter the ambient air by means other than a stack is a fugitive dust source. Consistent with Engineering Guide 75, certain processes or operations that are currently equipped with control equipment and vented through a stack may also be considered to be fugitive dust sources if, prior to the installation of the control equipment and stack, the emissions from the source entered the ambient air by means other than a stack. The DAPC developed the document entitled Reasonably Available Control Measures for Fugitive Dust Sources¹ (hereinafter "RACM document") to assist the field offices and Ohio industry in identifying the various fugitive dust sources within twenty-nine major manufacturing categories. The information in the RACM document should be used in conjunction with, not in lieu of, a thorough plant inspection. The actual identification of the various fugitive dust sources at an affected facility is the first task in implementing the requirements of OAC rule 3745-17-08. It is important that sufficient time be taken to perform this task carefully and thoroughly.

Determination of Affected Fugitive Dust Sources:

With the exception of those sources exempted by the provisions of OAC rule 3745-17-08(A)(3) or a specific exemption under the authority of OAC rule 3745-31-03, including a source which qualifies for the permit by rule exemption of OAC rule 3745-31-03(A)(4), once the various fugitive dust sources at an affected facility have been identified, a determination must be made concerning which of those sources are affected sources and, therefore, subject to the control requirements of paragraph (B) of OAC rule 3745-17-08. A literature survey to determine the emission rates and factors appropriate to the fugitive dust source should be utilized to evaluate the application of the "De Minimis" air contaminant source exemptions of OAC rule 3745-15-05. Here also, the RACM document can be a useful screening tool for identifying the affected sources, i.e., those sources for which it generally is technical feasible and economically reasonable to employ adequate control measures. For example, if the RACM document gives a recommendation concerning what would constitute "reasonably available control measures" for a particular fugitive dust source, that source can be considered to have the potential to be an affected source. If an affected facility is not covered by one or more of the twenty-nine specific manufacturing categories and four general categories within the RACM document, the field office and industrial personnel may need to conduct a separate literature survey to determine the available control alternatives, control costs, etc. for the various fugitive dust sources at that facility. If no such literature exists, or if the existing literature is inadequate to make a determination, it may be possible to compare the fugitive dust sources at the facility to similar sources which are discussed in the RACM document. This comparison may enable the field office and industry personnel to determine whether or not a particular fugitive dust source is potentially an affected source and, if so, what control measures may be appropriate. In the absence of any literature concerning an affected fugitive dust source and any comparable sources within the RACM document, the initial determination of whether or not a source is affected must be based upon the magnitude and duration of the visible emissions from the affected source. If, in the judgment of the field office personnel, the visible emissions from the source are substantial both in magnitude and duration, it may then be appropriate to request the company to conduct an engineering study to investigate the technical feasibility and economic reasonableness of several possible control measures. The results of this study, along with the visible emissions readings, will form the basis for finally determining whether or not that particular source is an affected fugitive dust source.

¹ The document "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980) is available on the Ohio EPA's Answer Place web site at <https://ohioepa.custhelp.com/> under the Answer ID 921.

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It must be clearly pointed out that the determination of whether or not a fugitive dust source requires reasonably available control measures must be made on a case-by-case basis. Even though the RACM document may indicate that a certain type of fugitive dust source requires control, that general conclusion may not necessarily be true for a specific source, of similar type, which is located at a specific affected facility.

If a company can demonstrate to the satisfaction of the field office personnel that the source qualifies for a permit exemption by the "De Minimis" air contaminant source provisions of OAC rule 3734-15-05 or that it is technically infeasible and/or economically unreasonable (i.e., not cost effective) to control the emissions from a particular fugitive dust source, that source would not be considered to be an affected fugitive dust source under OAC rule 3745-17-08. A demonstration of technical infeasibility may involve such factors as the age of a source, its size, unique design features, special operating procedures, safety considerations, space constraints, product quality requirements, etc. A demonstration of economic unreasonableness may involve such factors as the capital and annual operating costs of various types of control measures, their overall control efficiencies, energy requirements, the magnitude of the uncontrolled or controlled emissions (in terms of pounds per hour and/or opacity), etc. With respect to economic unreasonableness, the "bottom line" of any demonstration is the estimated cost effectiveness (annualized cost per ton of particulate emissions controlled) for each of the possible control measures. If the cost effectiveness estimates for the potential control measures are inordinately high, as compared to the cost effectiveness values cited for the reasonable control measures contained in the RACM document, then control of the particular fugitive dust source can be considered to be economically unreasonable.

If a company attempts to demonstrate that it is technically infeasible or economically unreasonable to control a particular fugitive dust source, the proper evaluation of that demonstration by the field office personnel will involve a great deal of engineering and technical judgment, and experience. If necessary, assistance in evaluating such demonstrations may be obtained from the Engineering Section of the DAPC.

Processing of Permits to Install, (PTI's), Permits to Install and Operate (PTIO's) and Variances:

Once a company has developed an overall fugitive dust control program for an affected facility, which meets the requirements of OAC rule 3745-17-08 and which is acceptable to the field office personnel, permits can be drafted for each of the affected fugitive dust sources in accordance with Engineering Guide #25. In most cases, general permit or miscellaneous terms and conditions, as provided in the Division of Air Pollution Control Permit Terms and Conditions Library, will be required for the PTI's, PTIO's or variances for the affected sources in order to adequately identify those sources, describe the control measures which are or will be employed, and specify any applicable emission limitations (e.g., 0.030 gr/dscf or no visible emissions). These terms and conditions should be carefully drafted to ensure that they are descriptive, comprehensive, sufficiently detailed and enforceable.