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Cotton Gins — Method of Utilizing Emission Factors in Determining Emission Parameters

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Keywords: Cotton, Emission

1 Purpose and Scope

1.1 The purpose of the procedures and data included in this standard is to aid permit and consulting engineers in calculating various air pollution parameters, such as daily and seasonal Total PM, PM_{10}, and $PM_{2.5}$ emission rates. Consultants representing cotton gins should utilize the presented calculation methods as a basis in preparing air pollution permit applications for their customers. Further, these procedures should be utilized by consultants when responding to notice of violations, recommending modifications to existing ambient air pollution control systems, or designing and developing new air pollution abatement systems in order to comply with SAPRA regulations. Regulators should use the data and procedures when reviewing permits or investigating complaints against a permitted facility.

1.2 This Standard establishes preferred terminology for use in air pollution engineering and defines terms that may not have air pollution related definitions in a desktop dictionary, and that are not defined in ASABE S588.1.

2 Additional Information

2.1 SAPRA permit engineers may be required to perform in-depth analyses of cotton gin emissions if the cotton gin is not covered under a general operating permit. This analysis may include calculation of emission rates for all point sources using emission factors or calculation of emission factors and/or emission rates from emission concentrations determined through source sampling of particular point sources. The primary regulated pollutant emitted by cotton gins is PM_{10}. In some states, emissions of Total PM and $PM_{2.5}$ are regulated.

2.2 This standard defines the operations of a cotton gin facility with engineering data that can be used by both consulting and permit engineers such that cotton gins are appropriately regulated. Included in the scope of this standard are standardized procedures for calculating emission factors from emission concentrations and hourly and seasonal emission rates from given (permitted) emission factors. Emission factors, specified in a permit, represent the allowable mass of PM that can be emitted per bale of cotton processed at a cotton gin for a specified air pollution abatement system, while maintaining compliance with the permit. Emission factors may be dependent upon a combination of factors, including the number of process streams and abatement devices used. The appropriate use of emission factors in calculating cotton gin emission rates is demonstrated in this standard.

3 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies unless noted. For undated references, the latest approved edition of the referenced document (including any amendments) applies.