$$E_{PM} = 2 \times TH \times EF$$

Where:

E_{PM} = *total particulate emissions from pile loading and unloading, expressed in pounds.*

2 = factor representing number of drops material undergoes; once during loading and once during unloading.

TH = total throughput of material stored in pile in a given time period, expressed as tons.

EF = emission factor, given as pounds of particulate matter emitted per ton of material undergoing drop operation.

Equation A5-15. Particulate Matter Emission from Loading and Unloading of Material Piles

particle size (e.g., 10µm if PM_{10} is desired). Once the PM emission factor is estimated, it can then be multiplied by the quantity of material transferred to or from the pile during the desired time period, to obtain the total PM emissions in pounds. This is expressed by **Equation A5-15** (*Particulate Matter Emission from Loading and Unloading of Material Piles*).

The data inputs required to estimate PM emissions during loading and unloading of material piles and the likely sources of obtaining this information are summarized in **Table A5-10** (*Data Inputs for Loading and Unloading of Materials*).

Table A5-10. Data Inputs for Loading and Unloading of Materials

Data Inputs	Source
Mean Wind Speed	Only one figure for the mean wind speed at the airport is required. This may be obtained from the National Climatic Data Center at the following website: http://www.ncdc.noaa.gov/ or from the weather station on site. The mean wind speed should be expressed in meters per seconds (m/s).
Material Moisture Content	This information can be obtained by direct sampling of the piles, or from the maintenance operator of the pile. If data is unavailable, Chapter 13.2.4, Aggregate Handling and Storage Piles, of EPA's AP-42 provides information on the moisture content of material types by industry. The moisture content of the material of the pile should be expressed in percentages.
Quantity of Material Loaded and Unloaded	This information should be obtained from the maintenance operations department. Because the methodology takes into account both loading and unloading of the pile, the desired information is the material "throughput" for each pile. The throughput should be expressed in tons per a given time period.
Source: Chapter 13.2.4, *Aggregate Handling and Storage Piles*, of EPA's AP-42, http://www.epa.gov/ttnchie1/ap42/ch13/final/c13s0204.pdf.	