

What is the appropriate metric for PSD permit threshold (TSP or PM₁₀)?

There is considerable controversy with regard to the use of emission rates from agricultural operations of total suspended particulate (TSP) or particulate matter less than 10 micrometers (PM₁₀) when determining annual emissions for requiring prevention of significant deterioration (PSD) permits. Currently, large stationary source emitters of particulate matter (PM) must obtain two permits. Those stationary sources that emit more than 250 tons per year of a “regulated pollutant” are required to obtain PSD permits and are subject to PSD increments. Those sources emitting more than 100 tons of PM₁₀ per year are required to obtain Title V permits and pay annual emission fees. Sources of PM emissions meeting thresholds for PSD and Title V permits are referred to as “major” sources.

The controversy stems from whether it is correct to use TSP concentrations to calculate annual PM emission rates for the purposes of requiring a PSD permit. EPA staff have indicated that TSP may be used as the PSD metric if it is considered to be a regulated pollutant. When EPA replaced the TSP NAAQS in 1987, the EPA did not keep the old TSP NAAQS (EPA, 1995). Instead, EPA promulgated the PM₁₀ health based standard. The 1997 NAAQS review maintained a PM₁₀ standard and added a PM fine standard each based on health effects. In 2006, EPA again reviewed the PM NAAQS and maintained PM₁₀ and PM fine standards. Additionally, in 1995 EPA issued guidance “Definition of Regulated Pollutant for Particulate Matter for Purposes of Title V”:

“Today's guidance should be used to determine which sources of particulate matter are subject to minimum title V requirements and fee calculations. The Federal minimum for applicability of title V to sources of particulate matter should be based on the amount of emissions of PM-10, not particulate matter, that the source has the potential to emit. Some sources [such as country grain elevators, aggregate (rock, gravel, and sand) handling operations, and some mining operations] may not be major sources of PM-10 even though they would have been considered major sources of particulate matter

*This document explains the Environmental Protection Agency (EPA) policy that, at this time, **PM-10 is considered to be the only regulated form of particulate matter**. Today's policy supersedes prior EPA statements which indicated that a second regulated form of particulate matter existed. As explained further below, such prior statements were based on the fact that EPA had established specific compliance methods for sources of particulate matter under the new source performance standards (NSPS). The immediate consequence of this policy is that under the title V operating permits program only PM-10 is considered by EPA to be the regulated form of particulate matter for applicability and fee purposes. This policy does not affect (1) existing requirements under the NSPS that a source comply with*

applicable performance standards for particulate matter emissions or (2) provisions contained in State implementation plans for particulate matter, including existing particulate emissions limitations, which have been approved by EPA and are relied upon to attain or maintain the national ambient air quality standards (NAAQS) for particulate matter.”

EPA has made it clear that PM₁₀ and PM_{2.5} are the only regulated forms of Particulate Matter. In addition, it is our understanding that even though TSP may be used as a surrogate for PM₁₀ for NSPS standards, this does not make TSP a regulated pollutant. Most agricultural stationary sources emit PM that is characterized as large with TSP/PM₁₀ ratios of 4 to 10. This illustrates that TSP is a poor surrogate for PM₁₀ from these operations.

In summary, it is clear that PM₁₀ is the appropriate metric for the Title V permit threshold. From EPA guidance it is also clear that TSP is no longer a regulated pollutant. Therefore, the appropriate metric for PSD permit threshold should be PM₁₀ not TSP.

References:

USEPA.. 1995. Memorandum from Deputy Director L. N. Wegman dated 16 October, 1995 : “Definition of Regulated Pollutant for Particulate Matter for Purposes of Title V.”. Office of Air Quality Planning and Standards (MD-10); USEPA; Research Triangle Park, N.C.