1.0 What Is the Purpose and Applicability of Performance Specification 1?

Performance Specification 1 (PS-1) provides (1) requirements for the design, performance, and installation of a continuous opacity monitoring system (COMS) and (2) data computation procedures for evaluating the acceptability of a COMS. It specifies activities for two groups (1) the owner or operator and (2) the opacity monitor manufacturer.

1.1 Measurement Parameter. PS-1 covers the instrumental measurement of opacity caused by attenuation of projected light due to absorption and scatter of the light by particulate matter in the effluent gas stream.

1.2 What COMS must comply with PS-1? If you are an owner or operator of a facility with a COMS as a result of this Part, then PS-1 applies to your COMS if one of the following is true:

(1) Your facility has a new COMS installed after February 6, 2001; or

(2) Your COMS is replaced, relocated, or substantially refurbished (in the opinion of the regulatory authority) after February 6, 2001; or

(3) Your COMS was installed before February 6, 2001 and is specifically required by regulatory action other than the promulgation of PS-1 to be recertified.

If you are an opacity monitor manufacturer, then paragraph 8.2 applies to you.

1.3 Does PS-1 apply to a facility with an applicable opacity limit less than 10 percent? If you are an owner or operator of a facility with a COMS as a result of this Part and the applicable opacity limit is less than 10 percent, then PS-1 applies to your COMS as described in section 1.2; taking into account (through statistical procedures or otherwise) the uncertainties associated with opacity measurements, and following the conditions for attenuators selection for low opacity applications as outlined in section 8.1(3)(ii). At your option, you, the source owner or operator, may select to establish a reduced full scale range of no less than 50 percent opacity instead of the 80 percent as prescribed in section 3.5, if the applicable opacity limit for your facility is less than 10 percent. The EPA recognizes that reducing the range of the analyzer to 50 percent does not necessarily result in any measurable improvement in measurement accuracy at opacity levels less than 10 percent; however, it may allow improved chart recorder interpretation.

1.4 What data uncertainty issues apply to COMS data? The measurement uncertainties associated with COMS data result from several design and performance factors including limitations on the availability of calibration attenuators for opacities less than about 6 percent (3 percent for single-pass instruments), calibration error tolerances, zero and upscale drift tolerances, and allowance for dust compensation that are significant relative to low opacity levels. The full scale requirements of this PS may also contribute to measurement uncertainty for opacity measurements where the applicable limits are below 10 percent opacity.