

Justification for Exemption

Technology

The three issues are interrelated regarding the standard, the technology to implement it, and the option to use existing compliance methods for low emitting EGU's (LEE Units). As a first point of information, the pending 0.01 lb/MMBtu limit is likely technically feasible under the current compliance demonstration methods of a periodic Method 5 Performance Test, which consists of approximately 3-hours of testing as frequently as once per calendar quarter, or in the case of LEE units, once LEE status is demonstrated, once every 36 months. Ongoing compliance is demonstrated by opacity monitors in the stack.

The ability to meet an emission standard is based on the numerical limit of that standard, the reliability of the test method for that standard, and the frequency of the testing. In the case at hand the requirement to use a PM CEMS introduces a significant question of technical feasibility to meet the more restrictive standard on a continuous basis. PM CEMS do not measure PM directly but use methods such as light scatter or beta attenuation to estimate the PM concentration. Many of these device's outputs are adversely affected by particle size, density, and shape changes. The output of the PM CEMS must be correlated to the particulate concentration in the stack by using the currently approved test Method (Method 5) and developing correlation curves to convert the PM CEMS output to an estimated concentration. Of all of EPA's specifications for continuous emission monitors, PS-11, the performance specification for these instruments, is the only one that uses correlation methods to derive an estimated emission concentration.

The issue of varying particle size, density, and shape changes, which affect the correlation on many types of PM CEMS, could have a great impact on coal-fired power plants burning waste coal, such as is the case with this request. Coal-refuse fired power plants combust a fuel supply that has great variation in fuel chemistry as different waste coal piles are reclaimed and used for fuel. This is a far different situation than in the case of conventional virgin coal-fired power plants which use a much more consistent fuel supply. PM CEMS have not been demonstrated to be technically feasible at these extremely low emissions levels, nor is there currently any calibration method available that can accurately verify continuous measurements of fPM at levels as low as 0.01 lb/MMBtu; thus neither the technical feasibility of using these monitors, nor the ability to demonstrate compliance employing them with the lower standard on a continuous basis have been established as technical matters, to date.

Furthermore, there are no technically feasible add-on control devices that can be employed on these units, beyond those currently in use, that could provide additional controls to further reduce emissions should the new requirements for monitoring show an inability to comply with the reduced emission standard based on the new monitoring requirements.