ALTERNATIVE ANALYTICAL TECHNOLOGY
FOR INSTRUMENTAL METHODS 3A AND 6C

INTRODUCTION

Methods 3A and 6C of 40 CFR Part 60, Appendix A, for measuring O_2, CO_2, and SO_2 for compliance determinations and continuous emission monitoring system relative accuracy testing list a variety of analyzer detector types. The methods also include sampling and analytical system performance checks that must be met for each test application.

DISCUSSION

The list of analyzer detector types listed in Method 3A and 6C are not intended to be all inclusive, but the quality assurance and quality control checks in the methods allow for the application of other analyzer detectors to be applied provided the performance criteria are met. These performance criteria include limits for analyzer and system calibration error, calibration drift, interferences, response time, and some specifications for sample conditioning system performance. Other analyzer types (e.g., electrochemical, specific ion-electrode, FTIR) that can meet these criteria for each application may be applied for compliance or CEMS relative accuracy testing where Method 3A or 6C is specified.

Note that this determination does not now apply to Method 7E for NO_x measurement. Analyzer NO_x detector technology other than chemiluminescence must undergo a performance evaluation in accordance with Method 301 of 40 CFR Part 63, Appendix A, before acceptance as an alternative to chemiluminescence in an application requiring Method 7E. Method 301 specifies field evaluations comparing the proposed alternative technique with the designated reference method, in this case, Method 7E. The proposed alternative method must demonstrate acceptable precision and bias values as stipulated in Method 301.

For additional information on the evaluation of alternative NO_x analytical techniques in applying Method 7E, contact William Grimley, (919/541-1065).