THE INITIAL TWELVE SITE IMPLEMENTATION OF EPA'S PM2.5 CHEMICAL SPECIATION TRENDS MONITORING NETWORK

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Abstract

The $PM_{2.5}$ chemical speciation trends network consists of approximately 54 monitoring sites dedicated to characterizing major aerosol mass components in urban areas of the United States for discerning long-term trends and providing an accountability mechanism to assess the effectiveness of emission mitigation programs. These sites are dedicated to providing air quality trends over time and therefore, require consistent sampling and analysis protocols. The initial implementation of the trends network is being done through the installation of the first twelve sites in November, 1999, which are equipped with multiple speciation samplers obtained through the National Sampler Procurement. The samplers are being operated on an every third day sampling interval for a six month period by State air pollution control agencies located across the country. Samples collected are being analyzed for a consistent suite of analytes by a laboratory services contractor selected to support needs of the full speciation program. The objectives of this six month study are to test and assess the logistical and technical approaches for operating the full 54 site trends network, develop additional data for sampler comparison studies, obtain cold climate operational experience, and provide State agency training. The paper will detail the experimental design, describe the network operational processes and quality assurance procedures, and present preliminary data on sampler performance as well as wintertime $PM_{2.5}$ aerosol composition as measured simultaneously from many areas across the country.

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