

*Response due
1/12/05*

*Plan - PLS. Action
Response w/ Key*

*Action
Response Request
Shreve's
AF - ATB (letter only)*

Georgia Department of Natural Resources

Environmental Protection Division, Air Protection Branch
4244 International Parkway, Suite 120, Atlanta, Georgia 30354
404/363-7000
Noel Holcomb, Commissioner
Carol A. Couch, Ph.D.
Director

December 20, 2004

Mr. Douglas Neeley
Air Planning Branch
Air, Pesticides and Toxics Management Division
U.S. EPA, Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104

Dear Mr. Neeley,

Please find the proposed revised PM 2.5 monitoring plan for Georgia. As stated in § 58.25 "The State shall annually develop and implement a schedule to modify the ambient air quality monitoring network to eliminate any unnecessary stations or to correct any inadequacies indicated by the result of the annual review required by § 58.20(d). The state shall consult with the Regional Administrator during the development of the schedule to modify the monitoring program. The final schedule and modifications will be subject to the approval of the Regional Administrator. Nothing in this section will preclude the state with the approval of the Regional Administrator, from making modification to the SLAMS network for reasons other than those resulting from the annual review"

The purpose of this letter is to notify the U.S. Environmental Protection Agency that the State of Georgia in conjunction with the State of Alabama is changing the Georgia monitoring network description to include the creation of two Community Monitoring Zones in the Columbus, Georgia/Phenix City, Alabama area. A review of the data has determined that the individual monitors located in Muscogee County and Russell County are not adequate by themselves to characterize the annual average community wide air quality. Therefore as allowed in 40 CFR 58, App D Section 2.8.1.6.3 two community monitoring zones are being established for the purposes of providing improved estimates of community wide air quality and for making comparisons to the annual NAAQS and will better reflect the approach used as the basis for the creation of the PM2.5 standards as stated in Section 2.8.1.2.3 of Appendix D The Columbus/Phenix City CMZ is the area inside the outlined portion shown in Figure 1. This CMZ is representative of the urban core and includes parts of Muscogee County, Georgia and Russell County, Alabama. The Columbus/Phenix City CMZ includes the Columbus Health Department core site and the Phenix City core site. The Cusseta School core site and the airport supplemental site are contained in the Columbus Rural/Suburban CMZ.

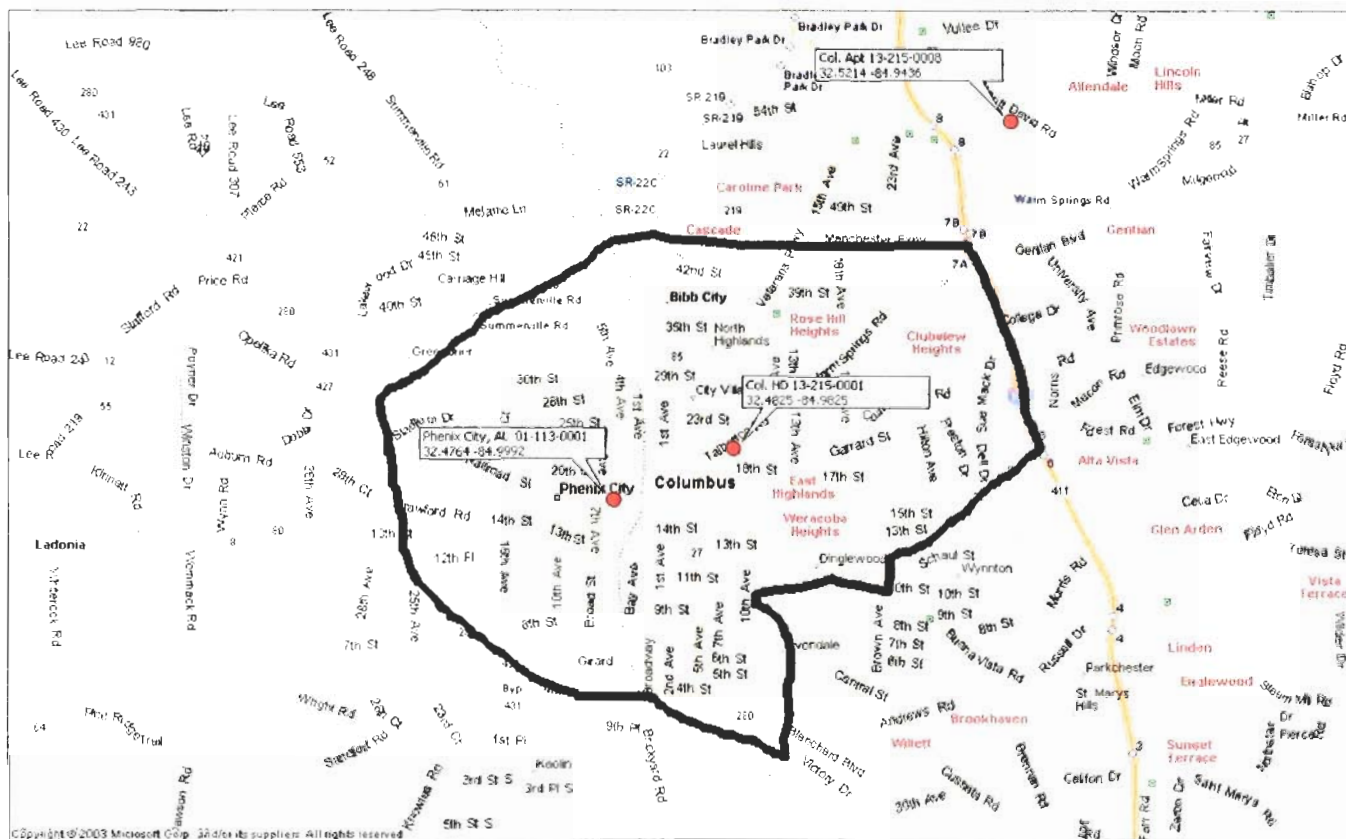


Figure 1

The State of Georgia will spatial average the data from the two core sites found in the Columbus/Phenix City CMZ to determine attainment for that community monitoring zone. The data from the two core site monitors meet the requirement of demonstrating air mass homogeneity required for spatial averaging. The sites, as seen in Table 1, differ by no more than 6% from the spatial average and exhibit similar day to day variability with a calculated Pearson correlation value of 0.79. In addition, a regression analysis shows that the behavior of one site is predictive of the behavior of the other site with an R^2 of 0.65.

Site	Pearson Correlation	Regression Analysis	% Differences		
			2001	2002	2003
Phenix City/Columbus Health Dept	0.79	0.65	-1.1%	-6.0%	-6.0%

A preliminary analysis of annual and seasonal wind rose data along with NOAA/NWS 30-year summaries shows that Columbus Metropolitan Airport has a fairly variable wind flow pattern. Columbus experiences NW flow January through April, and ENE flow the remaining months, excluding July, which has SW flow as the predominant wind. From an annual average standpoint, ENE is the predominant wind, but NW flow is a strong secondary component. There are also frequent periods of calm, which need to be noted, probably due to stagnant Gulf and Atlanta high-pressure systems over the region and the location of the city being in a valley on the Chattahoochee River. The frequent calms and variable wind components indicate that emission sources whether from Muscogee or Russell County will affect the entire

community monitoring zone. The emissions for the area are as found in Table 2.

Site	VOC		NOx		SO2		PM2.5		NH3	
Russell Co	6273.4	40%	5931.0	50%	2414.7	75%	2019.2	80%	391.4	55%
Muscogee Co	9476	60%	5965	50%	803	25%	513	20%	323	45%
Total	15,749.4		11,896		3,217.70		2,532.2		714.4	

Since the data indicates that there is a significant homogeneity between the two Columbus/Phenix City CMZ monitors and since the standard was based directly on epidemiological studies using spatially averaged data, it is reasonable to modify the Georgia PM2.5 monitoring plan to reflect the use of spatial averaging for comparison to the NAAQS.

We would appreciate your expedited review of this information in light of the deadlines in the PM2.5 designation process. If you need further information or have any questions or comments please do not hesitate to contact me at 404-363-7016 or Susan Zimmer-Dauphinee at 404-363-7004.

Sincerely,



Ronald Methier
Branch Chief