

FY 2004 Community Based Air Toxics Monitoring Workplan For Hillsborough County

Project Title: Inhalation Risk Posed by Toxic Emissions from the Port of Tampa

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Workplan Introduction

The Environmental Protection Commission of Hillsborough County (EPC) and the Pinellas County Department of Environmental Management (DEM) initially cooperated on air toxics monitoring during CY 2001. Under the auspices of the FY 2000 UATS Pilot Monitoring Program, entitled "Tampa Bay Regional Air Toxics Study" (TBRATS), 12 months of monitoring was conducted for Volatile Organic Compounds (VOC's), carbonyls and TSP metals at six sites through December 31, 2001. Although not selected for participation as study sites in subsequent years, both counties elected to continue the same suite of toxics monitoring at four sites during CY's 2002 and 2003. In FY 2003, Tampa was selected to become an urban National Air Toxics Trend Site (NATTS). Hillsborough County commenced NATTS monitoring at its Sydney monitoring site, January 1, 2004, utilizing the standard NATTS suite of monitors for VOC's, PM₁₀ metals, carbonyls, an aethalometer, PM_{2.5} speciation, and wind measurements. EPC continues to use quality control/assurance plans approved during the Urban Air Toxics study and updated for the NATTS site.

This document describes the network design, operational plan, data quality objectives, quality assurance and data analysis plans for EPC's proposed FY2004 community based monitoring project (CBMP).

1 Project Description

1.1 Overview

The greater Tampa Bay metropolitan area is one of the fastest growing and environmentally diverse areas in the United States. The region has a subtropical climate with local meteorology particularly influenced by the recurring diurnal land and sea breeze dynamics typical of coastal regimes. The bay sits on the west-central coast of the Florida peninsula and is bounded by Pinellas County on the west and Hillsborough County to the east. Both Pinellas County and Hillsborough County have populations of over one million, with Hillsborough County's population centered primarily on the City of Tampa, which in turn is centered on the Port of Tampa. In addition to the broad range of sources in the Tampa Bay area, there are a large number of air emission sources around the Port of Tampa. These include: a fuel-oil fired power plant, a large natural gas-fired power plant, seven bulk petroleum distribution terminals, three shipbuilding and repair facilities, three cruise ship terminals, four liquid sulfur terminals/tank complexes, four large ammonia storage tanks/terminals, one large propane storage tank/terminal, two liquid asphalt terminals/storage complexes, a large wastewater treatment plant, a waste incinerator, four phosphate fertilizer shipping terminals, several scrap metal grinding/melting and shipping facilities, as well as a number of other stationary air emission sources. Figure (1) is a map of the Port of Tampa showing the air emission sources and two of the projected air monitoring sites. Note: the Port of Tampa is primarily located on the Hookers Point peninsula and centered on the shipping channel which runs between Hookers Point, Davis Island, and Harbour Island, although there is a large contribution from the Port Sutton channel to the east of Hookers Point. Appendix (1) is a table of the air emission sources around the port and their potential criteria pollutant emissions. In addition to these point sources, there are considerable mobile source emissions from vehicular traffic to the port, to downtown Tampa, and along the Interstate corridors that pass through the City of Tampa.

The 2000 Hillsborough County HAP Emission Inventory data show major source, area source and mobile source contributions are 31%, 24%, and 45%, respectively. Also, the inventory indicates there are significant concentrations of non-UATS, non-VOC toxics, such as hydrogen chloride and hydrogen fluoride, in the Tampa Bay Area. Hillsborough County is committed to detailed toxic emission inventories in the future and will coordinate with EPA on the 2002, 2005, and 2008 inventories in conjunction with the NEI.

During 2001, 22 of the 33 NATA toxics were monitored and the data collected was compared against 1996 NATA data. NATA modeling predicted that 12 compounds would exceed health benchmarks in the Tampa Bay area. Of the 12, Hillsborough County monitored for 10, and did not monitor 2 (acrolein and POM, although POM was monitored for at the Gandy site by the BRACE program (Bay Regional Atmospheric Chemistry Experiment)). Of the 22 compounds monitored for, 6 exceeded health benchmarks, which were not predicted to exceed by NATA modeling. Also, 2 other compounds did not exceed health benchmarks, although predicted to exceed by NATA results. Additional sampling, analysis and characterization of the HAPs identified in the 1990 CEP,

1996 NATA, 2001 monitoring study in-house analysis and local toxic monitoring efforts, justifies more comprehensive monitoring and assessment in this region.

1.2 Project Objectives

The primary focus of the CBMP is to conduct a study of air toxic emissions around the Port of Tampa to determine if the industrial sources located there pose a higher health risk to the citizens who live nearby as compared to neighborhoods measured in previous years and being measured by the NATTS site and other toxic monitoring sites around Tampa. A second issue EPC is interested in investigating is mobile source emissions, both highway and marine, utilizing toxics monitoring equipment and an aethalometer. A third issue EPC proposes to investigate is to compare traditional toxic monitoring techniques against open path monitoring systems EPC already has available. The project will provide the maximum amount of toxics information in the most cost-efficient manner. In support of this goal, the CBMP project objectives are:

- a. Measure air toxic emissions in the Port of Tampa. Compare the emissions from the port to those recorded at other sites away from the port to quantify any difference in the risk posed by the port.
- b. Measure toxic mobile source emissions with various pieces of air toxic monitoring equipment with the intention of: (1) properly identifying and quantifying diesel PM, (2) comparing highway diesel PM emissions against neighborhood scale diesel PM emissions, and (3) distinguishing between highway diesel PM emissions and marine diesel PM emissions.
- c. Compare relatively new air toxic monitoring techniques, such as the CEREX UV open path analyzer, the OPSIS DOAS open path analyzer, and the FTIR against established methodologies, such as TO-15 and TO-11.
- d. Explore the utilization of the CEREX UV open path analyzer to monitor for air toxics, such as formaldehyde and acrolein.
- e. Compare the CEREX UV open path acrolein measurements against EPA's acrolein monitor.
- f. Compare measurements collected during this study with previous year's toxics monitoring by EPC to determine if there is any statistical difference in the concentrations of pollutants.
- g. Compare the results of this monitoring to the latest National Air Toxics (modeling) Assessment available from EPA.
- h. Identify and characterize air toxics of greatest potential public health concern from living near the Port of Tampa.
- i. Establish a baseline for future comparisons of the concentrations of air toxics around the Port of Tampa.
- j. Submit monitored concentration data to AQS/AIRS (Air Quality System/Aerometric Information Retrieval System);
- k. Perform sufficient quality assurance and quality control procedures to validate the measured data; and
- l. Define the precision and accuracy of the measured data.

2 Project Plan

2.1 Overall Plan

To meet some of the objectives, EPC will actually commence comparisons of available open path analyzers against traditional toxic monitors prior to the CBMP commencement. When the CBMP commences, and to determine spatial relationships, EPC will conduct the same type of toxic monitoring at several sites around the City of Tampa for the full twelve month period, utilizing the NATTS site as one of the sites. Also, at the beginning of the CBMP period, EPC will monitor for toxic emissions from highway mobile sources, including diesel PM, for four months. Then EPC will monitor for toxic emissions from the Port of Tampa, including mobile sources emissions from marine vessels, including diesel PM, for the final eight months of the period. The final phase would be data analysis and report generation.

2.2 Pre-commencement

Irregardless of whether EPC is selected for the CBMP project or not, EPC will commence some of the monitor inter-comparisons. EPC already has possession of a CEREX UV open path analyzer and an FTIR on loan from EPA. In March of 2004, EPC intends to locate our mobile trailer at the Sydney NATTS site and commence comparisons of the data recorded on those open path monitors with that recorded by the NATTS air toxics monitoring equipment, and the OPSIS DOAS operating at the Sydney site. Once the CBMP project commences, EPC plans to execute the program in the following three phases:

2.3 Phase One

Mobile Trailer - EPC will initially locate our mobile monitoring trailer at EPC's office in Ybor City (Tampa), which happens to be on a major thoroughfare of truck and other vehicular traffic, for four months. The reason for this initial location is to measure highway vehicular and diesel emissions and to set the stage for a later determination of any difference between vehicular/diesel emissions from highway vehicles and marine vessels. The street immediately next to EPC, 21st Street, is three lanes one-way southbound and one small block away is 22nd Street, which is three lanes one-way northbound. Both streets feed traffic to and from Interstate 4. A lot of heavy truck traffic utilizes these routes going to and coming from the Port of Tampa. EPC will measure the emissions at this site with the same suite of toxics monitors (VOC's, PM₁₀ metals, carbonyls, wind and an aethalometer) as operating

at the NATTS site and running on the same schedule as those at the NATTS site. Also operating from the mobile trailer will be the CEREX UV open path analyzer and the FTIR. Because the open path instruments are semi-continuous and require some human interaction, they will be operated at least eight hours on each sampling day.

Concurrent with phase one and phase two, and to meet the primary objective, EPC plans to conduct toxics monitoring at the following other sites around Hillsborough County:

Sydney – (VOC's, PM₁₀ metals, carbonyls, aethalometer, PM_{2.5} speciation, wind) EPC plans to take advantage of the NATTS site at Sydney, paid for by the NATTS program, to use as one neighborhood point of comparison. With the cooperation of the State of Florida, and as part of the CBMP, EPC proposes to utilize the existing OPSIS DOAS equipment already at Sydney to conduct toxics monitoring at the NATTS site within the capabilities of the DOAS. There will be some cost associated with properly configuring the DOAS to measure as many toxic chemicals as it is capable of, such as formaldehyde, etc. Data collected via the DOAS will be compared against that collected using the NATTS monitors.

Gandy – (VOC's, PM₁₀ metals, carbonyls, wind) EPC has monitored for these same toxic VOC's, metals (TSP), and carbonyls at Gandy for the past three years, so there is a history of toxic concentrations available for temporal and spatial comparisons.

Simmons Park – (VOC's, PM₁₀ metals, carbonyls, wind) EPC monitored for toxic VOC's, metals (TSP), and carbonyls at the Simmons Park site in CY2001, so there is some toxics data available for temporal and spatial comparisons.

Since the NATTS program will add chromium 6 to its suite of toxic measurements at the Sydney site in FY 2005, about the same time as the CBMP will commence, EPC proposes to procure another chromium 6 monitor to include in the mobile trailer, and operated in the same manner as at the NATTS site, for the same data comparisons as noted above.

In addition to detecting formaldehyde, CEREX, the company that builds the UV open path analyzer, believes that instrument can detect acrolein. They are currently in the process of adding that capability to their hardware and software for their instrument, as well as developing a calibration standard for acrolein. Because of this, EPC proposes to conduct acrolein monitoring utilizing the UATMP contract (or another method such as DNPH analysis if available), that would be located with the CEREX UV open path analyzer in the mobile trailer to: (1) include in the comparison of monitor types and (2) measure acrolein levels during phase one and phase two.

Figure (2) is an aerial photo with the locations of the Sydney, Gandy, Simmons Park, EPC, and the Port of Tampa site (Davis Islands) in Hillsborough County.

2.4 Phase Two

Mobile Trailer - At the completion of phase one, EPC will move the mobile trailer, or the equipment therein, to another site as close as possible to the Port of Tampa to conduct the same type of monitoring as conducted in phase one for the remaining eight months of the twelve month monitoring period. EPC already has an existing air monitoring site at Davis Islands, which is very close to the shipping channel and Hookers Point. Phase two monitoring will consist of the same suite of monitoring equipment outlined in phase one, operating on the same schedule as the NATTS equipment, and as outlined in phase one. However, phase two monitoring will be primarily focused on measuring toxic emissions originating from the marine environment and industrial sources around the Port of Tampa.

During phase two, EPC will continue to operate the Sydney NATTS site as before and also will operate the Gandy and Simmons Park sites on the same schedule addressed in phase one.

2.5 Phase Three

Data analysis and report generation. The types of comparisons outlined in the objectives below will be conducted. The data collected by the monitors will be submitted to EPA as required by the grant. A report will be written and the results presented as directed by EPA.

2.6 Site Selection

The network of sites mentioned is designed to distinguish spatial gradients over a wide range of population types around the City of Tampa. The site selection factors were:

- Availability of land;
- Existing sites in areas of differing population density;
- Proximity to traffic corridors;
- Proximity to the Port of Tampa

- Availability of on-site meteorological measurements;

The sites proposed are:

Site Name	AIRS ID	Type
Gandy	12-057-1065	Commercial
Davis Islands	12-057-1035	Industrial (Port)
Sydney	12-057-3002	Neighborhood (NATTS)
Simmons Park	12-057-0081	Rural
EPC	TBD	Urban

3 Meteorological Measurements

The meteorological infrastructure consists of seven wind stations operating at SLAMS/NAMS sites in Hillsborough County, including the Gandy, Simmons Park, and Sydney sites. The mobile trailer is also equipped with wind measuring and recording equipment. In addition, there are 2 small airport meteorological stations and the National Weather Service (NWS) station at Tampa International Airport. Also, the NWS office in Ruskin, Florida provides twice daily upper air soundings.

4 Measured Pollutants

During the CBMP, samples will be obtained for volatile organic compounds (VOCs), metals, and carbonyl compounds at the Gandy, Simmons Park, Sydney and mobile trailer sites, utilizing EPA methods TO-15, IO-3, and TO-11. In addition, hexavalent chromium will be measured at Sydney and in the mobile trailer using EPA prescribed equipment. Acrolein will be measured in the mobile trailer in accordance with the prescribed method. Table 1 lists the air toxic compounds to be measured, analyzed, and reported.

Table 1. List of Target Compounds

EPA Method	Core pollutants	Additional HAPS	Additional HAPS (cont)
TO-15	Benzene	methyl chloride	styrene
	1,3-butadiene	methyl bromide	o-xylene
	Carbon tetrachloride	ethyl chloride	1,4-dichlorobenzene
	Chloroform	1,1-dichloroethene	1,2,4-trichlorobenzene
	1,2-dichloropropane	1,1-dichloroethane	hexachloro-1,3-butadiene
	methylene chloride	1,1,1-trichloroethane	Acrylonitrile
	Tetrachloroethene	1,1,2-trichloroethane	1,2 dibromoethane
	Trichloroethene	toluene	cis-1,3-dichloropropene
	vinyl chloride	chlorobenzene	trans-1,3-dichloropropene
		ethylbenzene	1,2-dichloroethane
	m-xylene	1,1,2,2-tetrachloroethane	
	p-xylene		
IO-3	Arsenic	antimony	
	Beryllium	cobalt	
	Cadmium	selenium	
	Chromium (total)		
	Lead		
	Manganese		
	Nickel		
TO-11	Acetaldehyde	propionaldehyde	
	Formaldehyde		
	Acrolein		
	Hexavalent Chromium		

5 Monitoring Protocols

The protocols for sampling methods, frequency, and duration for the project, are described in this section. Monitoring protocols for the additional data provided by concurrent studies and programs are briefly described here.

5.1 Sampling Methods

The primary method for sampling HAP metals for the study will be the collection of 10-micron particulates (PM₁₀) samples utilizing PM₁₀ samplers. The PM₁₀ federal reference method will be used for the operation of these monitors. All nonvolatile compounds (metals) are sampled and analyzed using EPA Compendium Method IO-3. These compounds are analyzed as "total" metals. Samples are collected on 8x10 inch, quartz fiber filters utilizing PM₁₀ samplers. The EPC laboratory performs the chemical analysis, using an ICP.

All carbonyl compounds sampled and analyzed for the project utilize the EPA Compendium Method TO-11A. Samples are collected on 2,4-dinitrophenylhydrazine cartridges and analyzed using high performance liquid chromatography. The Eastern Research Group (ERG), an EPA UATMP contractor, provides technical and analytical support.

The volatile organic compounds (VOCs) are sampled and analyzed using EPA Compendium Method TO-14A/15. Samplers are assembled using commercially available parts. They are collected in canisters and analyzed using gas chromatography/mass spectrometry (GC/MS) by DEM, Air Quality Division laboratory. In addition, EPC will also utilize the Florida Department of Environmental Protection (FDEP) laboratory in Tallahassee to conduct the same analysis on at least half of the VOC canisters. Method detection limits (MDL) are determined using 40 CFR Appendix B to part 135. All concentrations are to be submitted, as their actual numerical value with a system developed to flag measurements that are below MDL.

VOCs listed in Table 1 as additional HAPS are extracted from the TO-14A/15 method because there is no additional cost to sample or analyze these compounds. The TO-14A/15, TO-11A, and IO-3 analyses provide additional data for HAPS not included in the Urban HAP List with minimal expense for data management.

Chromium 6 sampling will be standardized by use of the UATMP contract. EPA's UATMP contractor, ERG, will perform the analysis for this study as well as other chromium 6 sampling.

Acrolein monitoring will be in accordance with the UATMP contract (unless a more cost effective method such as DNPH cartridge analysis is established prior to commencement of this study). EPA's UATMP contractor, ERG, will perform the analysis for this study.

The CEREX UV open path air monitoring system is a portable, tripod mounted system capable of simultaneously detecting multiple toxic gases such as benzene, sulfur dioxide, toluene, xylene, and formaldehyde. Quantitative reference spectra have been created for a number of these same compounds and can be easily inserted into the system as part of the monitoring routine. EPC has been using this system as well as an FTIR for several months to investigate gaseous emissions around a facility in Hillsborough County. We believe this system offers some promise for simpler and more real time toxic emissions and we want to explore further its potential with this CBMP.

The OPSIS DOAS is an EPA approved open path analyzer, also capable of being tripod mounted. When properly configured, it is capable of measuring a large number of toxic gases in approximately the same spectrum as the CEREX unit. EPC has been operating two hard-mounted OPSIS systems at its Sydney site as part of the BRACE atmospheric chemistry experiment. They have been measuring oxides of nitrogen primarily, but one of the two has also been recording BTEX gases. Both units are owned by FDEP, but with their approval, EPC proposes to reconfigure one of them to measure as many toxic gases as possible at the Sydney NATTS site, including formaldehyde.

As previously indicated EPC has been operating an FTIR on loan from EPA recently; in accordance with EPA's FTIR open path monitoring guidance (EPA/600 R-96-040). The FTIR is capable of detecting a large number of compounds in the infrared spectrum; as opposed to the ultraviolet spectrum of the CEREX UV open path analyzer and the OPSIS DOAS. While the operation of the FTIR equipment was not difficult, analyzing the data generated has been very difficult, especially with the interference of water vapor. However, CEREX, also the manufacturer of the FTIR, has indicated they are building a much more user friendly data analysis software for the U.S. Army. As part of the CBMP, EPC is proposing to procure that software from CEREX for \$15,000, and include the updated FTIR in its comparison of traditional toxic methodologies against open path methods.

5.2 Sampling Frequencies and Duration

Samples for PM₁₀ metals, carbonyls and VOCs at all monitoring sites under this study will be collected on a 1/6-day frequency using the EPA air-monitoring schedule. Assuming timely selection and disbursement of funds, CBMP sampling will begin as desired in September 2004 and continue for twelve months. The protocol for site-specific sampling duration is one (1) continuous 24-hour sample at each monitor except as noted for the CEREX open path analyzer and the FTIR. The anticipated duration of the entire project, including data analysis, is 18 months (September 2004 to January 2006).

5.3 Data Management

Handling the data generated by this study requires a coordinated effort to include contracted laboratories, FDEP, and the EPA. Data management involves compiling measurements and analytical results, data quality and validation checks, and finally, formatting and submittal to the EPA AQS (AIRS) database. The roles and responsibilities are defined below. However, they are flexible to allow for improving data collection and transfer efficiencies.

For the carbonyl compounds, data management responsibilities are included in the contract with ERG. This includes data formatting and input into AQS (AIRS). All work by ERG is under the Federal Urban Air Toxics Monitoring Program (UATMP) contract.

Data management for the VOCs includes monthly data reduction and validation, which will be formatted for electronic submittal into AQS (AIRS) by DEM. The processed data will be electronically forwarded to the State of Florida for input to the EPA AIRS database.

Data management for the metals includes monthly data reduction and validation, which will be formatted for electronic submittal into AQS (AIRS) by EPC. The processed data will be electronically forwarded to the State of Florida for input to the EPA AIRS database.

For chromium 6 and acrolein, data management responsibilities are included in the contract with ERG. This includes data formatting and input into AQS (AIRS). All work by ERG is under the Federal Urban Air Toxics Monitoring Program (UATMP) contract.

6 Quality Assurance Project Plan

In addition to the normal quality assurance programs associated with EPC's normal air monitoring efforts, specific quality assurance plans have been developed and submitted for approval for the programs mentioned above, including: Deposition of Air Toxics to Tampa Bay (draft), and PM_{2.5} Speciation Trends Network (draft). Pinellas County adheres to the QA requirements of EPA Method TO-15 (Jan 1997), meeting all technical acceptance criteria for BFB tune, initial and daily calibration, blank and sample analysis and replicate precision. Canister and sampler certification requirements are adhered to. Method detection limits (MDL) are preformed as described in 40 CFR 136 Appendix B. In addition, Pinellas County initiated intrastate agency audits and analyzed EPA Region 4 audit samples for TO-14 compounds. EPC participates in EPA's round robin interagency metals audits.

EPC submitted a QAPP in conjunction with the NATTS program. That plan included similar requirements that 10% of all sampling and total project expenditures would be associated with quality assurance activities. A project specific quality assurance plan that builds on the NATTS QAPP and adds the additional monitors to be employed in this project will be submitted to EPA Region 4 by the commencement of monitoring, assumed to be September 2004.

7 Project Data Analysis Plan

7.1 Overview and Objectives

In addition to submitting the data collected to EPA, EPC will analyze the data collected as indicated in the project objectives, section 1.2 of this workplan. We will be comparing the data collected from all the sites to determine if there is a distinguishable spatial gradient of HAP's around the City of Tampa, and particularly any additional HAP's that might originate from the Port of Tampa. We will also compare the current years data collected against that collected in previous years to determine if there has been any statistically significant change, particularly if any change can be attributed to the 2003 conversion of the TECO power plant from coal to natural gas. We will also be comparing the different types of monitors employed against each other for data consistency and possible utilization of open path equipment to measure toxics more real time in the future.

7.2 Data Management

Hillsborough County will submit their data generated in this study to the State of Florida for their entry into the AQS (AIRS) no later than 90 days following the end of the calendar quarter. Parties contracted to analyze certain elements of the project, such as ERG for carbonyls, acrolein and chromium 6, will submit the data as part of their contract. Section 5.3 above discusses the collection and data entry responsibilities.

7.3 Coordination with Other EPA Parties

EPC will coordinate with other parties, such as LADCO, as designated by EPA in the conduct of this study and provide requested information as necessary.

7.4 Emissions Inventory

As previously mentioned, EPC has been conducting HAP emission inventories since 1996 for Hillsborough County. To assist EPA in the improvement and refining of its HAP emissions inventories, EPC has cooperated with EPA in submission of our inventory data to EPA's NEI process. Furthermore, we have compared our inventories to the CEP and NATA modeling exercises as they were released and also to all the air toxics monitoring data we have collected to refine our inventories. Hillsborough County is committed to detailed toxic emission inventories in the future and will coordinate with EPA on the 2002, 2005, and 2008 inventories in conjunction with the NEI.

7.5 Risk Assessment

An inhalation risk assessment of the data collected will be performed in accordance with current EPA protocols after consultation with EPA. It is anticipated that the risk assessment will be completed approximately six months after the completion of samples analysis and receipt of sampling data from all laboratories involved.

8 Conformance to Program Objectives

The following describes how this proposal conforms to the objectives stated in section V of EPA's Request for Applications:

- 8.1 Clarifying spatial concentrations within urban areas – The CBMP project objectives 1.2 a & b directly address this objective by measuring the target HAP's at rural, neighborhood, commercial, and industrial sites at representative sites around the City of Tampa, while allowing EPC to study the impact of the Port of Tampa on the community as a whole.
- 8.2 Air toxics reduction/risk characterization – The CBMP project objectives 1.2 a & f address this objective. Hillsborough County and Pinellas County first addressed the risk posed to the greater Tampa Bay area based on limited monitoring conducted in 2001. Since that time, however, there has been a significant change in the emissions from the second largest source in Hillsborough County. The TECO Gannon power plant, near the Port of Tampa, has completed its conversion from coal to natural gas combustion. October 2003 was the last time this power plant burned coal. This will be the first opportunity to try to quantify any change in toxics emissions represented by that conversion. Also, the stated goal of this project is to determine if there is a higher risk posed by the Port of Tampa from toxic emissions over that of the area as a whole.
- 8.3 Monitor to model comparisons – The CBMP project objective 1.2 g addresses this objective. Each time EPA has published a toxics modeling exercise, starting with the Cumulative Exposure Project and the 1996 NATA, EPC has compared its monitoring results to those predicted by the models. Results have been fed back to EPA with the intent of improving the performance of the models. A specific example is the under-prediction of lead emissions around a secondary lead source in Hillsborough County. All of the specifics concerning that facility were forwarded to Tesh Rao at EPA for refinement of that portion of the model.
- 8.4 Advanced technology – The CBMP project objectives 1.2 c, d, & e address this objective. EPC has been fortunate to obtain the use of open path monitoring equipment (CEREX UV open path analyzer, OPSIS DOAS, FTIR) recently. We are anxious to continue to work with this equipment to define and develop its potential in measuring air toxics, especially if this equipment can be used more real time and in lieu of protracted laboratory analysis of 24-hour samples every six days.
- 8.5 Leveraging other resources – In addition to the use of existing equipment mentioned above and the use of the monitors at the NATTS site, such as the PM_{2.5} speciation monitor, CBMP project objective 1.2 b addresses how EPC will attempt to use all resources available to help better identify toxics emissions, such as diesel PM from highway and marine sources.