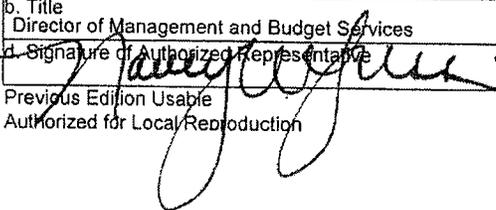


**APPLICATION FOR
FEDERAL ASSISTANCE**

Version 7/03

1. TYPE OF SUBMISSION: Application <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Non-Construction		2. DATE SUBMITTED 	Applicant Identifier
<input type="checkbox"/> Pre-application <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction	3. DATE RECEIVED BY STATE 		State Application Identifier
		4. DATE RECEIVED BY FEDERAL AGENCY 	Federal Identifier
5. APPLICANT INFORMATION			
Legal Name: New York State Department of Environmental Conservation		Organizational Unit: Department: Same	
Organizational DUNS: 806780912		Division: Division of Air Resources	
Address: Street: 625 Broadway City: Albany County: Albany		Name and telephone number of person to be contacted on matters involving this application (give area code) Prefix: Mr. First Name: Tony Middle Name: Last Name: Zappala Suffix: Email: ajzappal@gw.dec.state.ny.us	
State: New York	Zip Code: 12233-5022	Phone Number (give area code): (518) 402-8451	
Country: United States		Fax Number (give area code): (518) 402-8454	
6. EMPLOYER IDENTIFICATION NUMBER (EIN): 14-6013200		7. TYPE OF APPLICANT: (See back of form for Application Types) A Other (specify):	
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify):		9. NAME OF FEDERAL AGENCY: United States Environmental Protection Agency	
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: TITLE (Name of Program): Local-Scale Air Toxics Ambient Monitoring 66-034		11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: Establishing an Ambient Mercury Baseline for New York State	
12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): Statewide		14. CONGRESSIONAL DISTRICTS OF: a. Applicant All New York State b. Project All New York State	
13. PROPOSED PROJECT Start Date: 4/01/2006 Ending Date: 3/31/2008		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS? a. Yes. <input checked="" type="checkbox"/> THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE: b. No. <input type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372 <input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW	
15. ESTIMATED FUNDING:		17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT? <input type="checkbox"/> Yes If "Yes" attach an explanation. <input checked="" type="checkbox"/> No	
a. Federal	\$	292,305	
b. Applicant	\$		
c. State	\$		
d. Local	\$		
e. Other	\$		
f. Program Income	\$		
g. TOTAL	\$	292,305	
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.			
a. Authorized Representative			
Prefix Ms.	First Name Nancy		Middle Name
Last Name Lussier		Suffix	
b. Title Director of Management and Budget Services		c. Telephone Number (give area code) (518) 402-9237	
d. Signature of Authorized Representative 		e. Date Signed 8/22/05	

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Standard Form 424 (Rev.9-2003)
 Prescribed by OMB Circular A-102

SECTION A - BUDGET SUMMARY

GRANT PROGRAM FUNCTION OR ACTIVITY (a)	CATALOG OF FEDERAL DOMESTIC ASSTCE NO. (b)	Estimated Unobligated Balance		New or Revised Budget		Total (g)
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	
1. Air Pollution Control	66.034			\$292,305	\$0	\$292,305
5. TOTALS				\$292,305	\$0	\$292,305
SECTION B - BUDGET CATEGORIES						
GRANT PROGRAM FUNCTION OR ACTIVITY						
		Air Pollution Control				Total
a. Personnel		\$0				\$0
b. Fringe Benefits		0				\$0
c. Travel		16,848				16,848
d. Equipment		187,660				187,660
e. Supplies		16,245				16,245
f. Contractual		71,552				71,552
g. Construction		0				0
h. Other		0				0
i. Total Direct Charges		\$292,305				\$292,305
j. Indirect Charges		0				0
k. TOTALS		\$292,305				\$292,305
7. Program Income						

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3. Detailed Itemized Budget for Mercury Study

Contractual:	#	Direct Costs
Weekly MDN Sample Analysis at \$169 each (2 yr)	208	\$35,152
Additional Methyl Mercury Analysis at \$150 each (2 yr)	208	\$31,200
Estimated Sample Shipping Costs (2 yr)	2	\$5,200
Contractual Total:		\$71,552

Travel:	#	Direct Costs
To NYC Field Site Twice Monthly (2 yr)	15,360	\$6,220
To Roch. Field Site Twice Monthly (2 yr)	21,120	\$8,553
To Tekran for Training (3 days, 2 staff)		\$2,075
Travel Total:		\$16,848

Equipment:	#	Direct Costs
Tekran Model 2537A Vapor Analyzer	2	\$67,450
Tekran Model 1130 Speciation Unit	2	\$76,680
Tekran Model 1135 Particulate Unit	2	\$18,450
Tekran Model 2505 Hg Calibrator	1	\$6,260
MDN Wet Deposition Collector	2	\$7,800
Belfort Rain Guage #B-5-780 with chart and pen marker	2	\$9,420
MDN associated installation, shipping and training (estimated)	2	\$1,600
Equipment Total:		\$187,660

Supplies:	#	Direct Costs
Tekran Full Spares Kit (2 yrs)	2	\$12,445
Exterior: Unistrut Support Rack and Decking (Estimated)	2	\$800
Interior: 78" Equipment Rack with sliding shelves	2	\$1,900
Platform for Wet Deposition Collector	2	\$450
Concrete Foundation for Belfort Rain Gauge	2	\$650
Supplies Total:		\$16,245

Total Grant Request: \$292,305

SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) other Sources	(e) TOTALS	
8. AIR POLLUTION CONTROL	\$0				\$0
12. TOTALS (sums of lines 8 and 11)					
		\$0			\$0
SECTION D - FORECASTED CASH NEEDS					
13. Federal	Total for first year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
	\$292,305	\$73,076	\$73,076	\$73,076	\$73,077
14. Non-Federal	\$0	\$0	\$0	\$0	\$0
	\$292,305	\$73,076	\$73,076	\$73,076	\$73,077
15. TOTAL (sum of lines 13 and 14)					
		\$73,076	\$73,076	\$73,076	\$73,077
SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT					
(a) Grant Program	FUTURE FUNDING PERIODS (Years)				
	(b) First	(c) Second	(d) Third	(e) Fourth	
17.					
18.					
19.					
20. TOTALS (sum of lines 16-19)					
SECTION F - OTHER BUDGET INFORMATION					
(Attach additional sheets, if necessary)					
21. Direct Charges	\$292,305				\$0
22. Indirect Charges					\$0
23. Remarks: Detailed Estimated Budget Attached As Part Of Application.					

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Air Monitoring Plan For Establishing an Ambient Mercury Baseline for New York State

Applicant: New York State Department of Environmental Conservation
Contact Person: Dirk Felton
Category: Community-Scale Monitoring
Phone: (518) 402-8508
Fax: (518) 402-8507
Email: hdfelton@gw.dec.state.ny.us
Funding Request: \$292,305
Project Period: Sampling (April 1, 2006 - March 31, 2008)
Final Report due July 1, 2008

1. PROJECT SUMMARY

The requested funding will be used to establish a reference baseline for mercury air concentrations and wet deposition in urban areas in New York State. This baseline will be used in conjunction with other mercury monitoring measurements to track the overall progress of mercury reduction strategies for the two largest source categories, municipal waste combustors and coal fired electric utilities. Establishing a baseline as well as documenting progress with regulatory actions is consistent with the federal program to quantify regulatory achievement under the Government Performance and Results Act.

Using instrumentation to measure ambient elemental and oxidized mercury in Rochester and New York City, the NYSDEC will address whether the ratio of elemental to reactive gas mercury is enhanced from atmospheric interactions with the other pollutants prevalent in urban areas. The ambient mercury concentration alone does not adequately represent the mercury burden in urban areas alone. Weekly wet deposition measurements will be made of both elemental and divalent mercury to more thoroughly encompass the total mercury loading into the environment.

Recently, the Mercury Deposition Network (MDN) recognized that there may be significant differences between the concentrations found in their established rural network and from what might be found in heavily populated urban areas. MDN staff recently decided to seek out suitable urban monitoring sites to compare with their Nationwide rural network. They are currently reviewing the specific monitoring locations we are suggesting for Rochester and New York City.

Data analysis for this project will target comparisons of the magnitude and ratio of reactive gas mercury to elemental mercury for ambient and wet deposition samples from the newly established urban sites with data from other regional monitoring locations. This will help

other states and Canada evaluate the accuracy of their urban concentrations which could previously only be inferred from their predominantly rural data. Secondly, the speciated mercury concentrations will be compared to ozone, sulfur dioxide, meteorology and speciated PM-2.5 data in an effort to look at the effects of atmospheric reactions and decay rates versus that expected from known sources.

It is anticipated that much of the sampling program will be continued after the initial two year period of this grant in order to fully determine the impacts of upcoming regulatory changes associated with Mercury emissions.

1.1 RELATED MERCURY REGULATION

On January 30, 2004, the U.S. Environmental Protection Agency (EPA) published in the Federal Register a proposed rule entitled "Proposed National Emissions Standards for Hazardous Air Pollutants (NESHAP); Electric Utility Steam Generating Units." This proposed regulation was a direct result of the December 2000 finding under section 112(n) of the Clean Air Act which established it was "appropriate and necessary" to control emissions of mercury from coal fired utilities. In the proposed rule, EPA also offered an alternative regulatory approach which included a cap-and-trade program for mercury emissions from existing sources and new source performance standards for new sources.

On March 15, 2005, the EPA promulgated the Clean Air Mercury Rule (CAMR). The CAMR was adopted in lieu of the NESHAP for the Electric Utility Steam Generating Units. The final rule established a cap-and-trade program for the control of mercury and required States to create and submit a State regulation to implement the cap-and-trade program and distribute mercury allocations to affected units. States have 18 months to submit a State Plan with mandatory emission monitoring and reporting for existing units beginning on January 1, 2009. Compliance with the first cap of 786 pounds per year for New York State begins on January 1, 2010. This funding request will allow New York State to establish a baseline of speciated mercury compounds in the ambient air and in wet deposition prior to implementing statewide emission control strategies.

The recently implemented Clean Air Mercury Rule, will require electric utility sources to meet initial mercury capping levels between 2010 and 2017 with reductions achieved through control strategies of the Clean Air Interstate Rule (CAIR). CAIR targets nitrogen oxides and sulfur dioxide emissions and requires further reductions than any other acid rain or ozone strategy to date. The expected benefits of CAIR rely on the installation of pollution control equipment. Several New York utilities need to comply with state regulations also targeting sulfur dioxide and nitrogen oxide and they have been meeting these limits with fuel switching. The coal facilities have been switching to subbituminous coal from the Powder River Basin in Wyoming. Subbituminous coal has very little chlorine and stack emissions of mercury have a much higher percentage of elemental to oxidized mercury emitted. With the potential of fuel switching being used to satisfy the requirements of CAIR it is important for New York State to

insoluble elemental mercury, which is predominant in the ambient air.⁵ Vermont has one MDN site with 8 more in Pennsylvania and 2 in southern Ontario and Quebec. All of the regional MDN monitoring locations are sited for regional trends purposes and therefore are situated in rural areas away from sources and population centers.

1.4 ADDITIONAL NEED FOR PROGRAM MONITORING DATA

New York State needs the data from this study in order to establish a baseline of ambient mercury compounds prior to the enactment of state regulations to control mercury from coal-fired utilities. The two largest source categories of anthropogenic mercury emissions in New York State are coal fired utilities and municipal waste combustors. For municipal waste combustors, New York State enacted a regulation that went beyond the federal NESHAP effective October, 2002.

Starting in 1999 and updated in 2002, NYSDEC compiled an emission inventory of major point sources for the eastern half of the United States. This database was used by researchers from the State University of NY (SUNY) and University of Athens to simulate mercury deposition in eastern North America during a 13 day summertime rain event using two different atmospheric models.⁶ The models were capable of predicting wet and dry deposition patterns, however the researchers stated that limitations of the model were “measurements of mercury deposition are altogether too sparse and intermittent to make robust conclusion about the accuracy to these state-of-the-science models”. The proposed monitoring equipment will make it possible to more accurately evaluate model to monitor scenarios for emitted mercury compounds.

Measurements from 1992 - 1994 of elemental mercury at five locations within New York State exhibited seasonality with significantly higher concentrations measured in the winter months than in the summer months.⁷ One theory investigated the relationship between high levels of ozone, sunlight, and halogens and their enhancement of the conversion of elemental mercury to reactive gas mercury.^{8,9} Recent studies of mercury deposition in California have investigated this theory and some researchers have concluded that local high urban ozone conditions contribute significantly to the local enrichment of mercury deposition.¹⁰ As Part of EPA’s Mercury Research Strategy published in September of 2000, the need to improve the monitoring of atmospheric deposition especially the monitoring of speciated compounds of mercury, was stressed.¹¹

1.5 PROJECT MISSION AND GOALS

- a.) Develop an urban data set of speciated mercury ambient and wet deposition concentrations over a two year period.
- b.) Relate urban concentrations to existing regional rural data sets with careful consideration of the seasonality of Mercury species.
- c.) Demonstrate the effectiveness, accuracy and precision of the Tekran 2537A, 1130 and 1135 system.

not only establish a baseline of total mercury emissions but to understand any potential change in speciated mercury compounds. The two sites as proposed will help NYSDEC begin to understand the potential issues surrounding mercury control over the next ten years.

1.2 PUBLIC HEALTH IMPLICATIONS FOR MERCURY

Mercury deposition levels continue to be a major threat to public health in New York State. Due to the high levels of mercury in freshwater fish, the NYSDEC and the New York State Department of Health have issued specific warnings advising that pregnant women and children should not consume any servings of certain fish species caught in 41 lakes and more than 265 miles of rivers in the State. The New York State Department of Health publication, *Chemicals in Game and Sportfish 2003-2004*, identified ten new areas with elevated mercury levels in fish since the 1999-2000 edition, bringing the number of lakes with specific fish advisories for mercury to 41.¹ In addition, there is a general fish advisory alerting the public not to eat more than one meal (one-half pound) per week of fish taken from New York's fresh waters and some marine waters at the mouth of the Hudson River. This list of restricted water bodies and fish species continues to grow each year. Many of the lakes sampled are in remote mountainous areas of the State that do not have any known mercury inputs other than atmospheric deposition.

EPA's Mercury Study Report to Congress concluded that the Great Lakes, the Ohio River Valley, the Northeastern United States and scattered areas in the south are predicted to have the highest annual deposition rates of mercury in the United States.² A recently completed study of mercury deposition in the Adirondack Mountain region of New York showed that sources located in the United States contribute 42 percent of the mercury deposition in this region.³ Regional modeling work conducted by the Electric Power Research Institute concluded that 80 percent of the mercury deposition that occurs in the southern New York region and surrounding states comes from sources based in the United States.⁴

1.3 EXISTING NEW YORK AND REGIONAL MERCURY MONITORING

The NYSDEC has operated a Tekran 2537A, 1130 and 1135 with the assistance of Clarkson University since mid 2004 in Rochester. This instrument is an older model than what is available now from Tekran and has experienced quite a few operational problems. The NYSDEC will continue to operate the instrument in Rochester and will replace it with a newer model with grant funds. Clarkson has a Tekran 2537A, 1130 and 1135 instrument operating in Huntington Forest in the Adirondacks. Clarkson anticipates that the National Science Foundation funding supporting the site's operation will last for more than a year. The NJDEP operates 3 Tekran 2537A, 1130 and 1135 instruments. One of these is located in Elizabeth, NJ just west of NYC.

There are two Mercury Deposition Network (MDN) sites operating in rural areas in New York. These sites record the wet deposition of soluble oxidized mercury species, but not the

- d.) Gain expertise in the operation and maintenance of the Tekran instrument.
- e.) Leverage data from other programs including MDN, NAMS/SLAMS, NCORE, PAMs and STN to examine how atmospheric reactions with other pollutants can effect the ratio of oxidized to elemental mercury in urban areas.
- f.) Provide access to quarterly data reports and the final project report from the NYSDEC public website.

1.6 STUDY APPROACH

NYSDEC plans to use this funding to purchase two *Tekran* Model 2537A, 1130 and 1135 Mercury Speciation Units and an external calibrator. This will allow the NYSDEC to accurately monitor elemental, reactive gaseous and particle bound mercury species in ambient air. The Tekran was chosen because it has a high time resolution and suitable detection limits for ambient measurements. The high frequency species data from this instrument provides insight into the conversion from one form to another during the course of a day¹². The majority of ambient Mercury is present in elemental form, but differentiation data is important due to the greater local impact and health effects of reactive forms. Reactive mercury has much higher wet and dry deposition rates than does elemental. Speciation is of particular interest close to industrial sources such as waste incinerators and fuel-burning equipment, which may discharge the majority of their mercury emissions in ionic form, particularly mercuric chloride.

In addition, NYSDEC intends to use the funding to purchase wet deposition monitoring equipment similar to that used for the Mercury Deposition Network (MDN) sites. The wet deposition collector system, as required by the MDN, is manufactured by Loda Electronics and would be equipped with a Belfort Universal Recording Rain Gauge. NYSDEC intends to install these monitors collocated with the Tekran instruments. Due to the proximity of potential localized sources of mercury emissions, these wet deposition monitors are not intended nor would they qualify to be a part of the Mercury Deposition Network. The data from the urban MDN samplers will be used for comparisons with the existing rural MDN data set as well as to more completely evaluate the Mercury burden in the two populated urban areas. The weekly samples from the two MDN collectors will be sent to the MDN contract lab for total and methyl-mercury analysis.

The two monitoring sites would be in Rochester, NY and the New York Botanical Gardens in the Bronx. The Rochester site is downwind for the majority of New York's coal burning utilities. (see Chart #1). The second site, in New York City, is located downwind of many of New York's oil and natural gas fired utilities, including numerous commercial and industrial boilers that burn oil and gas. (See Chart #2)

The establishment of the Tekran monitors will give the grantees the ability to determine the ratio of seasonal elemental mercury to oxidized mercury in the ambient air. Data procured from the Information Collection Request (ICR) showed that the majority of mercury emitted

from coal fired utilities, located in the eastern half of the United States emit speciated mercury compounds in the following percentages, 31%, 66%, 3%, elemental, reactive gas and particulate, respectively.¹³ Coal-fired utilities in the states surrounding New York burn predominantly eastern bituminous coal with high chlorine content creating the ratio of in-stack gases listed above.

NYSDEC's existing Tekran instrument will be collocated at the Bronx monitoring location with one of the new Tekran instruments. We will use the two instruments to provide precision estimates for elemental, particle bound and reactive gas data and if needed to monitor mercury species concentration on a higher frequency than is possible with one instrument.

1.7 DATA ANALYSIS

The data to be collected as part of this proposed plan, will be analyzed in accord with the goals identified in Section 1.5. Data analysis protocols will be developed by NYSDEC staff who will implement this aspect of the study. The protocols will be described in the Quality Management (QMP) and Quality Assurance Project Plan (QAPP) documents and reviewed by the EPA QA officer assigned to this program. In general, the approach of data analysis will incorporate the following concepts using statistical measure such as means, medians, deviations, frequency distributions, and correlations:

- 1) Plots of pollutant concentrations against wind direction at individual monitor sites. The wind sector of interest will be refined by consideration of the horizontal deviation or spread (sigma-theta) of the wind.
- 2) Days of the week, seasonal, diurnal, and temperature subsets of data will be used in order to potentially infer the contribution of nearby source emissions.

1.8 KEY UNITS/PERSONNEL

New York State Department of Environmental Conservation, Air Division

1.) Bureau of Air Quality Surveillance (BAQS). Staff are responsible for all field aspects of the program including QA and data validation (Level 1).

Patrick Lavin	Director
Dirk Felton	Research Scientist
Oliver Rattigan	Research Scientist

2.) Bureau of Air Quality Analysis and Research (BAQAR) Staff are responsible for statistical analysis, data interpretation and report writing.

Thomas Gentile	Research Scientist
Steve DeSantis	Research Scientist
Kevin Civerolo	Research Scientist

2.0 BUDGET (Total Direct Costs: \$292,305)

Contractual:	#	Direct Costs
Weekly MDN Sample Analysis at \$169 each (2 yr)	208	\$35,152
Additional Methyl Mercury Analysis at \$150 each (2 yr)	208	\$31,200
Estimated Sample Shipping Costs (2 yr)	2	\$5,200
Contractual Total:		\$71,552

Travel:	#	Direct Costs
To NYC Field Site Twice Monthly (2 yr)	15,360	\$6,220
To Roch. Field Site Twice Monthly (2 yr)	21,120	\$8,553
To Tekran for Training (3 days, 2 staff)		\$2,075
Travel Total:		\$16,848

Equipment:	#	Direct Costs
Tekran Model 2537A Vapor Analyzer	2	\$67,450
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Tekran Model 1135 Particulate Unit	2	\$18,450
Tekran Model 2505 Hg Calibrator	1	\$6,260
MDN Wet Deposition Collector	2	\$7,800
Belfort Rain Gauge #B-5-780 with chart and pen marker	2	\$9,420
MDN associated installation, shipping and training (estimated)	2	\$1,600
Equipment Total:		\$187,660

Supplies:	#	Direct Costs
Tekran Full Spares Kit (2 yrs)	2	\$12,445
Exterior: Unistrut Support Rack and Decking (Estimated)	2	\$800
Interior: 78" Equipment Rack with sliding shelves	2	\$1,900
Platform for Wet Deposition Collector	2	\$450
Concrete Foundation for Belfort Rain Gauge	2	\$650
Supplies Total:		\$16,245

3.0 QUALITY ASSURANCE

3.1 DATA VALIDATION AND REPORTING

Data validation and reporting will be performed by monitoring staff in accordance with routine network procedures used with existing monitoring protocols in the statewide network. Data will be validated in the following steps:

- Level 0 - Raw data from instrument
- Level 1 - Valid using instrument QA goals
- Level 2 - Valid using external data comparisons and expected value techniques

The criteria used to pass data from Level 0 to Level 1 and from Level 1 to Level 2 will be clearly specified in the Quality Assurance Project Plan (QAPP) written for this project.

The Methyl Mercury analysis of weekly deposition samples as provided by MDN will be reviewed after the first 2 Quarters of the study period. If it is determined that this data is not useful than this phase of the program will be discontinued.

Quarterly data reports will be available well before the 120th day following the close of the calendar quarter in which the sample was taken and the final report including all of the data will be available 90 days following the end of the project period. The data reports will be available in either a hard copy or will be downloadable from the NYSDEC website. Data requests will be accommodated through electronic formats.

3.2 QUALITY ASSURANCE PLAN

A Quality Management Plan (QMP) and a QAPP will be written for this project based on many of the SOPs and QA documentation currently in use by the NYSDEC. The existing plans have been approved by EPA Region 2 staff. All sampling, validation and analysis with the exception of the MDN analysis will be performed by NYSDEC staff. The lab QAPP for the MDN will be incorporated into the QA documentation for this program. The expected overall QA procedures for the field equipment include:

<u>Procedure</u>	<u>Frequency</u>
Performance Audits Tekran	Bi-weekly Leak Check, Monthly Flow Audit
Precision Requirements: Tekran	Periodic operation of collocated Tekran system The precision limits will vary with the concentration level but nominally will be +/-20%
Accuracy Requirements: Tekran	Daily Internal Permeation span and zero
MDN Collector and Rain Gauge	Quarterly: External Hg Source audit As specified by MDN

4.0 PERSONNEL BIOSKETCHS

Kevin Civerolo, BS. MS. PhD. - has been a research scientist with the New York State Department of Environmental Conservation Division of Air Resources since 1998. Dr. Civerolo's primary task is to provide technical support for the state planning process for ozone, fine particulates, and mercury. His professional interests also include the evaluation of meteorological and photochemical models; estimating the effects of land use change and large-scale tree planting on air quality; analysis of spatial and temporal trends in air and water pollution data using traditional and non-traditional methods; and back trajectory and source attribution analysis. Dr. Civerolo also has experience in the development and use of several techniques for monitoring ambient reactive nitrogen compounds. He currently is an adjunct assistant professor at the University at Albany's School of Public Health. His M.S. and Ph.D. degrees in Meteorology were awarded by the University of Maryland in 1993 and 1996, respectively.

Steven DeSantis, BS. MS. - is a Research Scientist with the Division of Air. Mr. DeSantis received his Bachelor of Science degree from the State University of New York's College of Environmental Science and Forestry in 1982. He received his Masters of Science in Environmental Health, majoring in Industrial Hygiene, from Hunter College in New York City in 1990. Mr. DeSantis has worked for the Department of Environmental Conservation's Air Division for seventeen years. He started with the Department at the New York City Region 2 field office and transferred to Albany's Central Office. For the past 10 years, Mr. DeSantis has worked in the Air Toxics Section specializing in the permitting, inventory, evaluation and atmospheric modeling of hazardous air pollutants.

Dirk Felton, BA. MS. PE - is a Research Scientist with the Division of Air. Mr. Felton received his Bachelor of Arts degree in Physics from Kenyon College in 1987. He received his Master of Science degree in Environmental Engineering in 1993 from Stevens Institute of Technology and his New York Professional Engineer's license in 2003. Mr. Felton has worked for the Department of Environmental Conservation's Air Division in the monitoring Bureau for nine years and for the State University of New York's Atmospheric Science Research Center for a year and a half. He implemented the PM-2.5 monitoring program in New York, collaborated on the EPA Supersite program and serves on two National committees, CASAC AAMM and STAPPA/ALAPCO Monitoring Steering Committee as well as serving as the chair of the Regional NESCAUM Monitoring and Assessment Committee.

Thomas Gentile, B.A., M.S. is a Research Scientist and serves as Chief of the Air Toxics Section in the Division of Air Resources in Albany, New York. This Section is responsible for dispersion modeling and risk assessment of air toxics in support of the air quality permitting program, as well as, the development and maintenance of the overall Air Toxics Program in the NYSDEC. Mr. Gentile has a Bachelor of Arts in Biology from North Adams State College and a Master of Science in Public Health from the Graduate School of Public Health at the University of Massachusetts at Amherst. Tom has worked on numerous air toxics issues at the State and Federal level. He was a member of the Clean Air Act Advisory Committee (CAAC) Workgroup working on the development of a National Integrated Urban Air Toxics Strategy for reducing air pollution, the NYSDEC Mercury Task Force, a core workgroup reviewer of the Mercury report to Congress. He worked on the Chemical Information Management Project with the Forum on State and Tribal Toxics Actions (FOSTTA) and served as a consultant to the USEPA Science Advisory Board Executive Committee on risk assessment and air pollution issues.

Patrick Lavin, BCE, P.E. - has worked for the NYS Department of Environmental Conservation since 1972. Mr. Lavin is the Director of the Bureau of Air Quality Surveillance, responsible for 80+ monitoring sites in New York which are designed to quantify ambient air quality data for both criteria and non criteria contaminants. Mr. Lavin graduated from Manhattan College with a degree in Civil/Environmental Engineering. He has extensive experience with New York's permit program and has been the Department's representative in several hearings involving the permitting of major sources taking into consideration the residual risk associated with actual emissions. During his tenure with the Department he helped develop New York's Air Toxic Program, and co-authored an early version of Air Guide - 1, which helps define the State's guidance on handling emissions of toxic air pollutants.

Oliver V. Rattigan, BSc., PhD. received his degrees from University College Dublin, Ireland. He has several years research experience in both laboratory and ambient atmospheric chemistry with approx. 30 scientific publications. Dr. Rattigan has been a Research Scientist with the NYSDEC Division of Air for the past four years. His work has involved the evaluation and operation of advanced instrumentation for the chemical speciation of airborne particulate matter, PM_{2.5}, at various locations in New York State. This work is a joint collaborative project with the Atmospheric Science Research Center initiated as part of the EPA Supersite program. These instruments provide real-time data on the temporal and spatial variability of speciated PM_{2.5} needed to track pollution processes and provide critical data necessary for health effects and exposure research.

References:

- 1.) New York State Department of Health. *Chemicals in Game and Sportfish 2003-2004*. ONLINE. 2004.
<http://www.health.state.ny.us/nysdoh/fish/fish.htm>
- 2.) U.S. Environmental Protection Agency. Mercury Study Report to Congress. Volume II: An Inventory of Anthropogenic Mercury Emissions in the United States. 1987. ONLINE.
<http://www.epa.gov/ttn/oarpg/t3/reports/volume1.pdf>
- 3.) New York State Energy Research and Development Authority. Contributions of Global and Regional Sources of Mercury Deposition to New York State. 2002. ONLINE.
- 4.) Levin, L. 2003. "Overview of Mercury Emissions and Their Fate in the Environment". Presentation at AWMA Annual Meeting San Diego, CA. June 25, 2003.
- 5.) Lindberg S and Stratton W. "Atmospheric Mercury Speciation Concentrations and Behavior of Reactive gaseous Mercury in Ambient Air. Environ. Sci. Technol. 32, 49-57 1998
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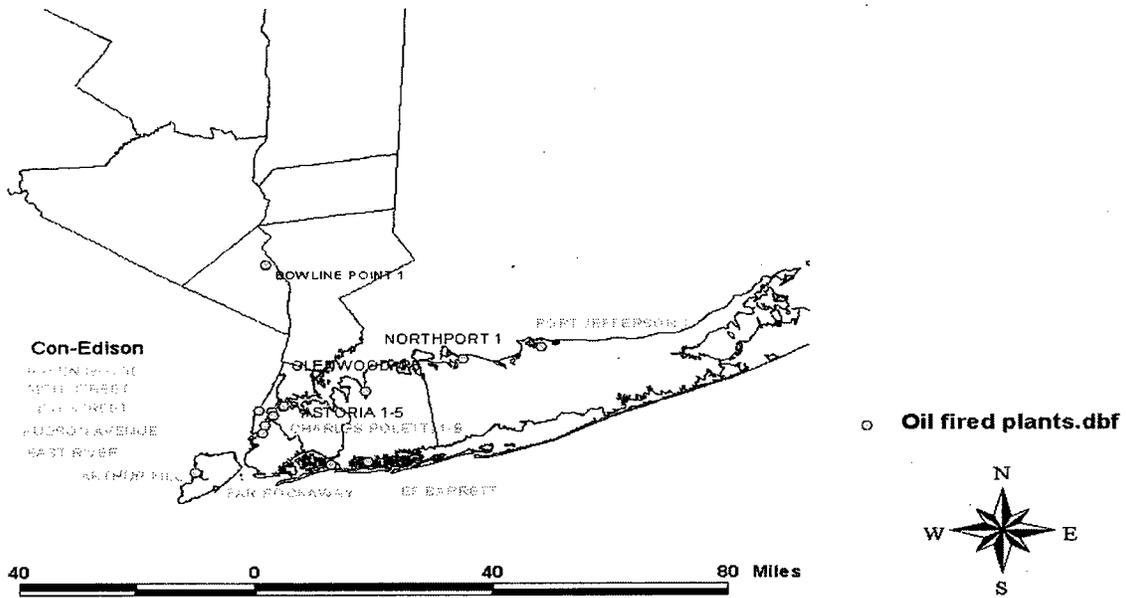
Chart #1



Coal Fired Plants

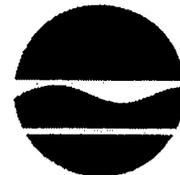
Chart #2

Oil Fired Power Plants



**New York State Department of Environmental Conservation
Division of Management & Budget Services, 10th Floor**

625 Broadway, Albany, New York 12233-5010
Phone: (518) 402-9228 • FAX: (518) 402-9023
Website: www.dec.state.ny.us



Denise M. Sheehan
Acting
Commissioner

AUG 22 2005

Mr. Michael N. Jones
U.S. Environmental Protection Agency - Region II
4930 Page Road
Durham, NC 27703

Dear Mr. Jones:

Enclosed, you will find two applications from the New York State Department of Environmental Conservation requesting funding from United States Environmental Protection Agency's (USEPA) Local-Scale Air Toxics Ambient Air Monitoring Program. Funding in the amount of \$293,809 is requested for a project titled, "Ambient Air Monitoring and Analysis Plan for Tonawanda Community Air Quality Study." Funding in the amount of \$292,305 is requested for a project titled, "Establishing an Ambient Mercury Baseline for New York State." We are proposing Project/Budget periods of October 1, 2005 through September 30, 2007 for the "Ambient Air Monitoring and Analysis Plan for Tonawanda Community Air Quality Study" and April 1, 2006 through March 31, 2008 for the "Ambient Air Monitoring and Analysis Plan for Tonawanda Community Air Quality Study."

We appreciate the assistance that USEPA provides to New York State for its Air Program. Please do not hesitate to contact Tony Zappala at (518) 402-8451 should you have questions or need additional information.

Sincerely,

Nancy W. Lussier, Director
Division of Management & Budget Services

Enclosures

cc: Mazeeda Khan, USEPA Reg. 2