

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO. <b>PR-HQ-08-10055/0003</b>	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO. <b>PR-HQ-08-10055</b>	5. PROJECT NO. (If applicable)
6. ISSUED BY <b>Environmental Protection Agency Bid and Proposal Room, Ariel Rios Building (3802R) 1200 Pennsylvania Avenue, N.W. Washington, DC 20460</b>		7. ADMINISTERED BY (If other than item 6) CODE <b>Not Applicable.</b>	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) <b>To All Offerors/Bidders.</b>		(✓)	9A. AMENDMENT OF SOLICITATION NO. <b>PR-HQ-08-10055</b>
		✓	9B. DATED (SEE ITEM 11) <b>07/30/08</b>
			10A. MODIFICATION OF CONTRACT/ORDER NO.
			10B. DATED (SEE ITEM 13)
CODE	FACILITY CODE		

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

**12. ACCOUNTING AND APPROPRIATION DATA (If required)**

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

(✓)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

**The purpose of this amendment is to revise the RFP for the third time. We have attempted to highlight changes in red; however offerors should read the amendment thoroughly as we cannot guarantee that all changes are highlighted.**

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		_____ (Signature of Contracting Officer)	

NSN 7540-01-152-8070  
PREVIOUS EDITION UNUSABLE

30-105

STANDARD FORM 30 (REV 10-83)  
Prescribed by GSA  
FAR (48 CFR) 52.243

**AMENDMENTS TO THE SOLICITATION**

1. The Section L clause entitled "EVALUATION OF OTHER DIRECT COSTS (EP 52.215-130) (APR 1984)" has been modified. The text is as follows:

For evaluation purposes, offerors shall propose the following amounts:

## A. Tasks 1 through 17

<u>Period</u>	<u>ODC Min</u>	<u>ODC Max</u>
Base Period	TBD	TBD
Option Period I	TBD	TBD
Option Period II	TBD	TBD
Option Period III	TBD	TBD
Option Period IV	TBD	TBD

The EPA is providing no specific ODC number for Tasks 1 thru 17. ODCs may include repairs, supplies, courier, expendables, travel, etc.

Laboratory analytical costs shall be priced as an ODC based on a fixed unit cost that is inclusive of labor and other incidental costs. Internal laboratory quality assurance costs (e.g. method blanks, replicate runs, and end of run internal standards) shall be incorporated into the unit cost. We are looking for (2) unique unit costs. The unit bases for these analytical costs shall be 1) one filterpack assembly prepared, shipped, received and analyzed from the field and 2) one audit sample received and analyzed.

## B. Task 18 and Task 1.7

Costs of land leases and utilities are tasked solely through the Level of Effort portion of the contract.

Estimated cost of land leases per year - \$55,000 (does not need an escalation factor applied per year)

Estimated cost of utilities for the sites per year - \$35,000 (does not need an escalation factor applied per year). Utilities include electrical power, telemetry and communications to the site.

2. The attachment entitled "STATEMENT OF WORK" has been modified. The text is as follows:

**Note: Because of formatting issues,  $\text{SO}_4^{2-}$ ,  $\text{NO}_3^-$ , and  $\text{NH}_4^+$  are incorrectly listed as  $\text{SO}_{42}$ ,  $\text{NO}_3$ , and  $\text{NH}_{4+}$  respectively. Please note the correct designation.**

## CASTNET IV Statement of Work (SOW)

### Project Background

The Clean Air Status and Trends Network (CASTNET) is a long-term environmental monitoring network that measures changes in ambient air quality and assesses atmospheric deposition over broad geographic regions of the U.S. Operating since 1987, CASTNET has evolved into a robust regional monitoring program which currently consists of 84 monitoring stations nationwide. The Environmental Protection Agency (EPA) operates a majority of the CASTNET monitoring stations. In cooperation with the EPA, the National Park Service (NPS) currently operates 25 stations. Table 1 and Figure 1 list and provide the location of the EPA operated CASTNET sites as of October 2007. The primary monitoring objectives of CASTNET are to:

- Provide atmospheric data on atmospheric deposition, rural ground level ozone and other forms of atmospheric pollution;
- Monitor the status and trends in regional air quality and atmospheric deposition;
- Assess and report on geographic patterns and long-term, temporal trends in ambient air pollution and atmospheric deposition;
- Improve our understanding of PM and ozone formation;
- Validate and improve atmospheric models;
- Provide data for health-based research and epidemiology studies;
- Assess the effectiveness of EPA's emission reduction programs and
- Support science and ecosystem studies.

Each CASTNET dry deposition site measures weekly average concentrations of sulfate ( $\text{SO}_{42-}$ ), nitrate ( $\text{NO}_3^-$ ), ammonium ( $\text{NH}_4^+$ ), sulfur dioxide ( $\text{SO}_2$ ), nitric acid ( $\text{HNO}_3$ ), chloride ( $\text{Cl}^-$ ) and the base cations ( $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Mg}^{2+}$  &  $\text{Ca}^{2+}$ ) using a 3-stage filterpack. In addition, each site measures hourly meteorological conditions required for calculating dry deposition rates, most sites measure average hourly ambient ozone levels and select sites measure hourly trace-level reactive odd nitrogen ( $\text{NO}_y$ ), nitric oxide ( $\text{NO}$ ), sulfur dioxide ( $\text{SO}_2$ ) and carbon monoxide ( $\text{CO}$ ). Table 2 is a list of pollutant monitoring and meteorological measurement systems deployed at a typical EPA CASTNET dry deposition site.

Dry deposition is calculated in the Network as a product of measured ambient air concentration values and inferentially-derived deposition velocities. Historically, the Multi-layer Model (MLM) has been used to estimate deposition velocities, accounting for stomatal and boundary layer resistance to deposition at multiple levels in a canopy. A new, more accurate model, the Multi-layer Biogeochemical Model (MLBC) is currently under development by EPA. This model is built on the MLM but also accounts for plant photosynthesis and respiration in estimating deposition velocities.

CASTNET, a long-term regional monitoring program, is critical for characterizing trends in deposition levels and identifying relationships among emissions, atmospheric loadings, ecological effects and human health. The EPA under several different mandates as well as other government agencies and the scientific community rely on the data and information from CASTNET, used in conjunction with information from other national monitoring networks (e.g., the National Atmospheric Deposition Program/National Trends Network (NADP/NTN) and Interagency Monitoring of Protected Visual Environments (IMPROVE)), to evaluate the effectiveness of air pollution control strategies for regional areas and assess chemical changes in the atmosphere. CASTNET tracks real-world environmental results over time and space as emission reductions take place. Since atmospheric changes occur very slowly and trends are often obscured by the wide variability of measurements and climate, numerous years of continuous and consistent data are required to overcome this variability.

The EPA's Office of Atmospheric Programs administers CASTNET and is committed to regional atmospheric monitoring to assess long-term environmental trends. The Clean Air Markets Division (CAMD), Office of Atmospheric Programs (OAP), is the lead in providing support and technical direction for CASTNET. Additional background information, current standard operating procedures (SOPs), and the CASTNET Quality Assurance Project Plan (QAPP) are available at <http://www.epa.gov/castnet>.

### **Task 1: Core Operations of the CASTNET Program**

The following sections describe the specific requirements for the Task 1 or the Core operations of the Network. In addition to these specific requirements, the Contractor shall implement the transition plan as outlined in their technical proposal. Management and costs of the site utilities, telemetry (e.g., phone or internet service) and the site land lease shall be included as a Level of Effort task and shall not be included in costs of this task.

#### **1.1 Data Management and Analysis**

The Contractor shall be responsible for storage and reporting of all information described in this Statement of Work, and shall maintain an archive of historical operations, deposition and air quality data acquired during previous contract periods.

The Contractor shall be responsible for acquiring, installing and running the MLM and/or MLBC, as specified in technical direction by the Contract Officer Representative (COR), using appropriate model inputs. The EPA shall supply the Contractor with the most recent compiled modeling programs. The Contractor shall be responsible for producing and maintaining input files required by the model programs and for loading model output files into the database through documented scripts and procedures. All software, scripts and documentation developed under this contract shall be available to the EPA and delivered upon request.

### 1.1.1 Data Management & Storage

To manage and report this information efficiently and accurately while continuing to acquire data from on-going operations, the Contractor shall manage a relational database in a development/testing/production environment. The database management system (DBMS) that the Contractor uses shall be capable of:

- Providing data security in compliance with the EPA requirements for external data systems;
- Efficiently managing a database of approximately 30 gigabytes in size;
- Efficiently managing a database having over 100 tables, with some tables having approximately 100 million records and
- Providing system-level user access and data integrity constraints.

The EPA currently uses the Oracle® Enterprise Database 10g Release 2(10.2.0.1.0) DBMS in a Solaris 10 environment. The EPA anticipates that this platform will be used throughout the life of this contract, although upgrades to the DBMS and operating system are likely. A description of the CASTNET schema is included in Attachment 11. Upon award of the contract the EPA shall deliver to the Contractor a complete and functional archive of the current contractor's Microsoft SQLServer database and Visual Basic data management application, and a complete and functional export of the EPA's Oracle schema.

The Contractor shall be responsible for managing all information described in this Statement of Work, including the data management activities required for data collection, processing, validation, storage, documentation and reporting. The types of data include, but are not limited to:

- All continuous measurements, observations and equipment status monitoring generated by the Network. All continuous data and equipment status monitoring shall be stored in the database as hourly averages. All observations made by the field operators shall be acquired either electronically (e.g., email or Web site) or through data transcription from hard copy forms sent in by the site operator.
- Results of laboratory analyses, including those types for routine samples, routine quality assurance samples, samples for method development or special studies, internal and external laboratory audits, internal and external system audits, and inter-laboratory comparisons. All laboratory results shall include identification in the database by type of sample.
- Site status and location data: including latitude, longitude, elevation, FIPS codes, nearby

NADP sites, political address (e.g., country, state, and county), conditions and surroundings within 1 km, history of instrumentation of the site, site contacts, and site operators and their contact information.

- Site photos and maps. All site photos shall be stored as binary objects in the database or as references to electronic images. The referenced electronic image shall be considered part of the database.
- Measurements and criteria from field calibrations and audits.
- Model results.
- Inter-network comparisons and other special studies. All sampling and analysis data from inter-network comparisons and other special studies shall be identified, documented and stored in the database.
- Quality assurance information from routine and non-routine sources. Data from routine and non-routine quality assurance measurements shall be identified, documented and stored in the database.
- The National Park Service's (NPS's) CASTNET data. The Contractor shall import and manage all available data acquired by the NPS for the operation of their CASTNET sites for all types of data listed above. The NPS or their designee will deliver data electronically to the Contractor in a format agreeable to all parties.
- External data sources. The Contractor shall be responsible for acquiring and managing final data products from NADP/NTN wet deposition database, and IMPROVE aerosol data. These external data products shall be used for estimating total (wet + dry) deposition and network-intercomparisons, respectively.

The Contractor shall maintain a data dictionary of all objects within the database, including tables, columns, constraints, and data validation codes. The Contractor shall use established good data practices to ensure that database objects and applications developed by the Contractor have been properly tested and documented before use in the production environment. The Contractor shall ensure that all electronic data acquisitions and transfers into and from the database are accurate and complete by checksum comparisons, or equivalent methods.

### **1.1.2 Data Reporting**

The Contractor shall deliver data to the EPA for loading into the EPA database with a minimum amount of human intervention. The Contractor shall transfer data to the EPA with an electronic agent (e.g., Oracle® Corporation's SQL\*Net™), or by creating and delivering electronic data on a routine basis that are compatible with the EPA's DBMS. If the Contractor requires connection to

the EPA servers for data transfers, the Contractor must conform to requirements for access to the EPA servers described at <http://yosemite.epa.gov/OEI/webguide.nsf/started/getserv> , and shall have sufficient Internet bandwidth to efficiently transfer data.

All data collected utilizing 40 CFR Part 58 requirements shall be submitted to the AQS database utilizing AQS protocol. AQS manuals and guides may be reviewed at <http://www.epa.gov/ttn/airs/airsaqs/manuals/manuals.htm>. All ozone data and continuous PM<sub>2.5</sub> mass data shall be automatically polled and uploaded to the AirNow webpage within 1-hour after a data collection hour is complete.

All data acquired through this contract shall be available to the EPA on a routine schedule, or in response to *ad hoc* data requests from the COR. The EPA Project Officer shall determine the timing and content of deliveries pursuant to the contract Technical Direction Clause. An electronic replica of the database and all supporting applications shall be delivered to the EPA annually. Data deliveries shall include but not be limited to validated primary measurements from continuous monitors, sampling information, analytical results, laboratory quality assurance data, inter-laboratory comparisons, model results, time aggregations, data from special studies, and documentation for all database objects. Documentation of all database objects shall be included within the database, and shall be clear and succinct with a minimum of jargon. Preference will be given to those offers that are able to deliver or make available to the EPA screened continuous field data within 24-hours of data acquisition, either through secured Web query forms or uploading to the EPA servers.

### **1.1.3 Data Archiving**

The Contractor shall maintain historical archives of CASTNET data from its inception, including primary measurements from continuous monitors, sampling information, analytical results, laboratory quality assurance data, inter-laboratory comparisons, model results, site locations and configurations, data from special studies, and data from other organizations used in the CASTNET program.

### **1.1.4 Data Security and Disaster Recovery**

The Contractor shall provide for data security and deliver a detailed disaster recovery plan to the COR within 90-calendar days of contract award. The disaster recovery plan shall include all elements of good data management practices, including an effective backup strategy; off-site storage of database backup files, critical software and electronic documents; and an effective data restoration plan that provides for a minimum of data loss in the event of a disaster.

### **1.1.5 Data Analysis**

The Contractor shall be capable of performing complex statistical analyses (e.g., principal

component, cluster and time series analyses) using a robust statistical analysis package (e.g., SAS, S-plus, and R).

The Contractor shall be capable of performing basic geographic and geostatistical analyses such as calculating geographic means and creating interpolations of geographic data sets using Inverse Distance Weighted, Kriging and Co-Variant Kriging algorithms; and producing publication-quality maps from these analyses.

#### **1.1.6 Data validation**

The Contractor shall screen and validate data from continuous field measurements for reasonableness using historical criteria, physical constraints, equipment status or other established and documented criteria. All data shall be screened for data anomalies by applying screening checks for physical maximum, minimum, reasonable boundaries, rate of change, allowable characters or other documented criteria. Any changes to raw data shall be recorded in the database and identified with a data validity code that identifies the circumstance or criteria by which the determination was made that the data is anomalous. All data entered by human data entry shall be validated either by independent double entry or statistically defensible means to document a minimum of 99.99 percent data accuracy. The Contractor shall screen, validate, code and submit all data collected in compliance with 40 CFR Part 58 to the EPA Air Quality System (AQS) database.

#### **1.1.7 Model operation**

The Contractor shall be responsible for acquiring, installing and running the MLM and/or MLBC, as specified in technical direction by the COR, using appropriate model inputs. The EPA shall supply the Contractor with source code and executables compiled under MS-Windows for the most recent modeling programs. The Contractor shall be responsible for producing and maintaining input files required by the model programs and for loading model output files into the database through documented scripts and procedures. All software, scripts and documentation developed under this contract shall be available to EPA and delivered upon request.

### **1.2 Quality Assurance**

Quality Assurance (QA) includes, but is not limited to, those activities conducted by and for the Contractor's management that assure and evaluate the effectiveness and appropriateness of all monitoring-related processes that might affect the quality of data delivered to the EPA under the contract. Typically, QA activities shall ensure that the Quality Control (QC) functions are carried out as designed into the operational functions of the work. The Contractor shall periodically evaluate the timeliness, effectiveness, and appropriateness of the QC activities, as outlined and specified in the EPA QA guidance referenced below.



The Quality Management Plan (QMP) and Quality Assurance Project Plan (QAPP) are critical planning documents for any environmental data operation. The corporate QMP defines an organization's QA-related policies, criteria for and areas of application, and definition of roles, responsibilities, and authorities.

The QAPP documents how environmental data operations are planned, implemented, and assessed during the life cycle of program, project, or task. The purpose of the QAPP is to define in detail how specific QA and QC activities will be implemented during this project. Standard Operating Procedures (SOPs) document in detail the routine or repetitive administrative and technical activities to facilitate consistency and integrity of the product. SOPs facilitate activities that are managed under a QAPP.

The Contractor shall prepare a draft comprehensive QAPP, including all related manuals and SOPs, and deliver four printed copies to the EPA for comments within 90-calendar days of contract award. After receipt of the EPA comments, the Contractor shall revise the QAPP in accordance with EPA's comments within 30-calendar days and provide one copy of the plan to the EPA QA Officer for approval. Upon written approval by the EPA QA Officer, the Contractor shall deliver four printed copies and an electronic version of the revised QAPP to the EPA. The QAPP shall be updated annually.

The QAPP and all associated documents shall conform to EPA general guidance and guidance for non-EPA organizations, as described at [http://www.epa.gov/quality/qa\\_docs.html](http://www.epa.gov/quality/qa_docs.html). The QAPP will include all of the elements describe in the "EPA Requirements for QA Project Plans", EPA QA/R-5 (EPA/240/B-01/003). The QAPP and SOPs shall be based, as applicable, on the "Quality Assurance Handbook for Air Pollution Measurement Systems", Volumes I, II, and IV. At a minimum, these documents shall provide sufficient detail of all aspects of the CASTNET operation to allow a user to perform the same activities and measurements and achieve similar results, and shall include the operational aspects of all sites within the CASTNET program regardless of operating agency. Method summaries and SOPs will be provided by the EPA for those equipment and procedures operated or performed by other agencies which differ from those of the Contractor.

The QA/QC program shall provide a uniform basis for sample handling, analysis, instrument and/or methods calibration and maintenance, equipment and method acceptance testing, performance evaluation, analytical data gathering, data processing and analysis, and reporting. In many instances where methodologies are available, specific QC procedures are incorporated into the method documentation.

The Contractor shall perform quality assurance activities independent of project management. The Contractor's quality assurance team shall prepare and deliver to the EPA four quarterly reports within 30-calendar days of the end of the calendar quarter for each year of the contract. The quarterly reports will briefly describe and summarize systematic data quality issues

identified and remedial actions taken during the quarter. Systematic data quality issues are defined as procedures or equipment within the project that may be introducing unacceptable bias or uncertainty into the data. The Contractor's quality assurance team shall also prepare and deliver to the EPA an annual report summarizing the current quality state of the CASTNET program, as measured by the various quality control indicators.

### **1.3 Equipment Depot/Equipment Repair and Maintenance**

The Contractor shall purchase new equipment and parts for the on-going operation and enhancement of the network on behalf of the EPA. Equipment and parts shall be delivered to the Contractor's facility or installation sites. Prior to deploying equipment for service, the Contractor shall ensure that field equipment is operating properly by performing and documenting acceptance testing of all the equipment purchased by EPA delivered to the Contractor's facility. Acceptance tests shall include comparisons of instrument outputs to known, calibrated values and checks of zero, span, and drift, noise levels, response time, and detection limits. The Contractor shall notify the EPA COR and should return to the manufacturer any equipment that fails acceptance testing.

The Contractor shall ensure sufficient spare parts are on hand to meet or exceed the requirements of this contract and shall purchase spare parts on a periodic basis to ensure sufficient spare parts are available at all times. The Contractor shall be responsible for affixing property tags properly to all EPA-purchased equipment and parts.

The Contractor shall maintain and update a database inventory of all EPA capital equipment. The current equipment inventory is included in Attachment 2. At a minimum, the inventory database shall contain the following fields: equipment description, manufacturer name, model number, serial number, EPA property number, location, purchase price, month and year of purchase, current condition and disposition. For quality assurance purposes, the history of all ozone analyzers shall be traceable using this database. The Contractor shall provide a written report on equipment inventory to EPA annually, and upon request by the PO.

The Contractor shall be responsible for the maintenance and repair (including costs) of all instruments, shelters, and data acquisition systems. Maintenance and repair expenses shall be included in the relevant task pricing. The Contractor shall insure that all equipment is in good working condition, is conducive to a safe work environment and there is appropriate protection of the Network equipment. The equipment shall be Government Furnished Property (GFP) or Contractor Acquired Property (CAP). The EPA may require equipment to be upgraded as new techniques, instrumentation, and improved components become available, and may require the replacement of outdated equipment that has reached the end of its operating lifetime. New or replacement equipment shall be government furnished equipment.

#### **1.4 Data Acquisition System**

The Contractor shall use an automated data acquisition system.

#### **1.5 Training (site operators)**

The Contractor shall provide standard substantive, hands on training to each new site operator. Training topics shall include, but not be limited to, an overview of the CASTNET program, equipment operation and maintenance, sampling procedures, safety, documentation and quality assurance. Particular emphasis shall be placed on training operators on instrument installation, equipment calibrations, maintenance, repairs, and sample change-out procedures. The Contractor shall evaluate operator performance in these activities, and provide adequate training until the site operator is proficient, in accordance with the data quality objectives.

#### **1.6 Field Calibrations**

The Contractor shall visit each active CASTNET monitoring station at least twice per year to perform routine calibration and maintenance of all CASTNET field equipment. In preparing for site visits, the Contractor shall coordinate with site operators and notify the COR of all scheduled site visits no less than 2 weeks prior to monitoring site trips. Upon arrival at each monitoring site and before any adjustments are made to any instruments, the Contractor shall conduct and record complete performance checks on all air quality systems, meteorological instruments, and data acquisition systems.

The Contractor shall perform the field calibrations listed in Table 3 at each site using the specified method, or an equivalent or better method that meets the acceptance criteria listed in Table 3. The Contractor shall operate all data collection activities in accordance with the quality assurance documentation described in section 1.2 of this SOW.

#### **1.7 Meetings and conferences - This is a Level of Effort Task**

The EPA COR may request the Contractor to attend and participate in conferences or meetings related to atmospheric deposition, air pollution or the operation of CASTNET. The government anticipates not more than 10 travel days annually for these requests.

#### **1.8 Reporting**

The Contractor shall deliver to the EPA a monthly progress report summarizing the network operation and maintenance activity for the prior month. At a minimum, the monthly progress report shall describe: any significant events or changes to the network that would affect interpretations of results; site activity; quality assurance procedures; data management; monthly

billing (in excel format); and any issues or limitations in using the data.

The Contractor shall deliver to the EPA an annual report summarizing the network for the prior calendar year. At a minimum, the annual report shall describe: the status of the network; any significant events or changes to the network that would affect interpretations of results; results and significant findings of the network; the quality of data produced by the program; any issues or limitations in using the data.

### **1.9 Third Party Audits**

The Contractor shall provide State and local agencies with access to CASTNET sites for the purpose of audits, installation of data loggers or installation and operation of additional monitoring equipment as space permits. The government anticipates no more than 10 sites will be visited by State or local agencies per year.

The Contractor shall provide third party auditors access to CASTNET sites as well as the Contractor's facility for the purpose of quality assurance audits and technical system audits. The government anticipates that third party auditors will visit each monitoring site and the Contractor's facility no more than once per year.

### **Task 2: Dry Deposition Filterpack**

Particles and selected gases shall be collected by passing air at controlled flow rates through a sequence of Teflon<sup>®</sup>, nylon, and base-impregnated filters. The Contractor shall perform filter pack sampling 10-meters above ground surface using a tilt-down tower. Filter pack flow shall be maintained with mass flow controllers at standard conditions of 25°C and 101.33 k Pascal (760 mmHg). Flow shall be maintained at 1.5 liters per minute (LPM) at sites having higher concentrations of analytes (generally sites in the Eastern U.S.) and 3.0 LPM at sites having lower concentrations (generally sites in the Western U.S.) or at other flow rates upon technical direction from the COR. Filter packs shall be replaced at each site every Tuesday at approximately 0900 hours by a site operator employed directly by the Contractor or as a subcontractor. SOPs and the CASTNET QAPP describing filterpack operations are available at <http://www.epa.gov/castnet>.

### **Task 3 : Ozone Monitoring (current CASTNET operating protocol)**

The Contractor shall operate ozone analyzers in accordance with the CASTNET QAPP and SOPs available at <http://www.epa.gov/castnet>. Inlets for the ozone analyzers shall be mounted at 10-meters above ground using a tilt-down tower. The CASTNET stations utilize a Thermo Electron Corporation Model 49-103/49C/49i-with onboard ozone generator/transfer standard. The ozone

analyzers shall be automatically challenged daily with a calibration atmosphere of 0 ppm, and 0.400 ppm and 0.090 ppm (zero, span and precision check or Z/S/P). Ozone analyzers multi-point calibration checks shall be performed at least once every six months. The onboard ozone (generator) transfer standard shall be challenged with an EPA Quality Assurance Handbook compliant ozone transfer standard at least once every six months.

#### **Task 4: Ozone (40 CFR Part 58 compliant)**

The Contractor shall operate an ozone analyzer in accordance with 40 CFR Part 58; the guidance in “Quality Assurance Handbook for Air Pollution Measurement Systems”, Volumes I, and II; “Technical Assistance Document Transfer Standards for Calibration of Air Monitoring Analyzers for Ozone” (EPA-600/4-79-056); and “Technical Assistance Document for the Calibration of Ambient Ozone Monitors” (EPA-600/4-79-057).

The onboard ozone generator will be utilized as the station ozone transfer standard.

The Contractor shall be responsible for submitting data to the AQS database.

#### **Task 5: Meteorology**

Wind speed, wind direction, relative humidity, solar radiation, precipitation, surface wetness, temperature and delta temperature measurements shall be made in accordance with the “Quality Assurance Handbook for Air Pollution Measurement Systems” Volume IV: Meteorological Measurements (EPA-454/D-06-001).

#### **Task 6: Trace gas NO<sub>y</sub>**

The Contractor shall operate a NO<sub>y</sub>/NO analyzer according to the manufactures manual and recommendation, the operation shall be consistent with 40 CFR Part 58, the “Quality Assurance Handbook for Air Pollution Measurement Systems”, Volumes I, and II and the “Technical Assistance Document (TAD) for Precursor Gas Measurements in the NCore Multi-pollutant Monitoring Network” (EPA-454/R-05-003) available at <http://www.epa.gov/ttn/amtic/pretecdoc.html>. The Contractor shall be responsible for submitting data to the AQS database.

#### **Task 7: Trace gas SO<sub>2</sub>**

The Contractor shall operate a trace gas SO<sub>2</sub> analyzer according to the manufactures manual and recommendation, the operation shall be consistent with 40 CFR Part 58, the “Quality Assurance Handbook for Air Pollution Measurement Systems”, Volumes I, and II and the “Technical

Assistance Document (TAD) for Precursor Gas Measurements in the NCore Multi-pollutant Monitoring Network” (EPA-454/R-05-003) available at <http://www.epa.gov/ttn/amtic/pretecdoc.html>. The Contractor shall be responsible for submitting data to the AQS database.

**Task 8: Trace gas CO**

The Contractor shall operate a trace gas CO analyzer according to the manufacturer’s manual and recommendation. The operation shall be consistent with 40 CFR Part 58, the “Quality Assurance Handbook for Air Pollution Measurement Systems”, Volumes I, and II and the “Technical Assistance Document (TAD) for Precursor Gas Measurements in the NCore Multi-pollutant Monitoring Network” (EPA-454/R-05-003) available at <http://www.epa.gov/ttn/amtic/pretecdoc.html>. The Contractor shall be responsible for submitting data to the AQS database.

**Task 9: PM<sub>2.5</sub> Federal Reference Method mass**

The Contractor shall operate a PM<sub>2.5</sub> Federal Reference Method (FRM) mass sampler as part of EPA's Chemical Speciation Network (CSN; also known as the Speciation Trends Network). Twenty-four hour samples shall be collected every third day according to the manufactures' manual and recommendations. The operation shall be consistent with the CSN protocol, 40 CFR Part 58, the "Quality Assurance Handbook for Air Pollution Measurement Systems", Volumes I and II and guidance documents at <http://www.epa.gov/ttn/amtic/specqual.html>. The CSN contract laboratory will coordinate the pre-sampling, shipping, and post-sampling activities. The Contractor shall be responsible for installing filters on the instrument, exposing the filters for 24 hours, removing the exposed filters, returning the filters to the contracted analytical laboratory, maintaining records of sampler operation and maintenance of equipment.

**Task 10: PM<sub>2.5</sub> speciation of organic and elemental carbon, major ions and trace metals**

The Contractor shall operate a PM<sub>2.5</sub> speciation sampler as part of EPA's Chemical Speciation Network (CSN; also known as the Speciation Trends Network). Twenty-four hour samples shall be collected every third day according to the manufactures' manual and recommendations. The operation shall be consistent with the CSN protocol, 40 CFR Part 58, the "Quality Assurance Handbook for Air Pollution Measurement Systems", Volumes I, and II and guidance documents at <http://www.epa.gov/ttn/amtic/specqual.html>. The CSN contract laboratory will coordinate the pre-sampling, shipping, and post-sampling activities. The Contractor shall be responsible for installing filters on the instrument, exposing the filters for 24 hours, removing the exposed filters, returning the filters to the contracted analytical laboratory, maintaining records of sampler operation and maintenance of equipment ~~submitting data to the AQS database.~~

**Task 11: PM<sub>10-2.5</sub> FRM mass**

The Contractor shall operate a PM<sub>10-2.5</sub> FRM mass sampler as part of EPA's Chemical Speciation Network (CSN; also known as the Speciation Trends Network). Twenty-four hour samples shall be collected every third day according to the manufactures' manual and recommendations. The operation shall be consistent with the CSN protocol, 40 CFR 58, the "Quality Assurance Handbook for Air Pollution Measurement Systems", Volumes I and II and guidance documents at <http://www.epa.gov/ttn/amtic/specqual.html>. The CSN contract laboratory will coordinate the pre-sampling, shipping, and post-sampling activities. The Contractor shall be responsible for installing filters on the instrument, exposing the filters for 24 hours, removing the exposed filters, returning the filters to the contracted analytical laboratory, maintaining records of sampler operation and maintenance of equipment ~~submitting data to the AQS database~~.

**Task 12: PM<sub>10-2.5</sub> speciation of organic and elemental carbon, major ions and trace metals**

The Contractor shall operate a PM<sub>10-2.5</sub> speciation sampler as part of EPA's Chemical Speciation Network (CSN; also known as the Speciation Trends Network). Twenty-four hour samples shall be collected every third day according to the manufacture's manual and recommendations. The operation shall be consistent with CSN protocol, 40 CFR Part 58, the "Quality Assurance Handbook for Air Pollution Measurement Systems", Volumes I, and II and guidance documents at <http://www.epa.gov/ttn/amtic/specqual.html>. The CSN contract laboratory will coordinate the pre-sampling, shipping, and post-sampling activities. The Contractor shall be responsible for installing filters on the instrument, exposing the filters for 24 hours, removing the exposed filters, returning the filters to the contracted analytical laboratory, maintaining records of sampler operation and maintenance of equipment ~~submitting data to the AQS database~~.

**Task 13: Continuous PM<sub>2.5</sub> mass**

The Contractor shall operate a continuous PM<sub>2.5</sub> mass sampler 1 hour reporting interval – utilizing Beta Attenuation Monitoring (BAM) according to the manufactures manual and recommendation. The operation shall be consistent with 40 CFR Part 58 and the “Quality Assurance Handbook for Air Pollution Measurement Systems”, Volumes I, and II. The Contractor shall be responsible for submitting data to the AQS database.

**Task 14: Filterpack preparation and laboratory analysis**

The Contractor shall be responsible for providing sample preparation and analytical services for two types of samples: 1) sample filters, and 2) precipitation samples for inter-laboratory comparisons. The Contractor shall maintain the technical capability to perform the required

analytical services and provide an acceptable level of personnel, equipment, and systems. The Contractor's responsibilities shall include, but not be limited to, the following:

- Purchase, maintenance, and pre-sampling treatment of all required filter media;
- Appropriate shipping containers and shipment of all filter media to the field, including field blanks;
- Analysis of all samples, laboratory quality control samples, blanks, calibration standards, filter production-lot acceptance testing and performance evaluation samples;
- All sampling and analysis data entry;
- Purchase and maintenance of laboratory instruments and consumable supplies; and
- Storage and archival of all sample extracts and filter media.

#### **14.1 Interlaboratory Comparison Samples**

The Contractor shall analyze precipitation and natural water laboratory inter-comparison samples for anions ( $\text{SO}_{42-}$  and  $\text{NO}_{3-}$ ), base cations ( $\text{Na}^+$ ,  $\text{Ca}^{2+}$ ,  $\text{K}^+$ , and  $\text{Mg}^{2+}$ ), ammonium ( $\text{NH}_{4+}$ ), specific conductance and pH using the methods specified in Table 4. Each sample shall be analyzed for the complete set of analytes. Inter-laboratory comparison studies are necessary for the documentation of laboratory performance and coordination of results with other North American monitoring networks, including IMPROVE, the Canadian Acid Precipitation Monitoring Network (CAPMoN), and NADP.

#### **14.2 Filter Pack Samples**

The Contractor shall analyze filter media for anions ( $\text{SO}_{42-}$  and  $\text{NO}_{3-}$ ), base cations ( $\text{Na}^+$ ,  $\text{Ca}^{2+}$ ,  $\text{K}^+$ , and  $\text{Mg}^{2+}$ ) and ammonium ( $\text{NH}_{4+}$ ). Each sample shall be analyzed for the complete set of analytes. The Contractor shall prepare the media and filter packs for deployment into the field, ship the filter packs to each site, receive and log the filter packs after sampling, disassemble the filter packs, extract the filters, analyze the extracts, and report results.

##### **14.2.1 Filter Pack Preparation and Media Acceptance Testing**

The Contractor shall be responsible for the purchase and preparation of all filter media. Each three-stage filter pack shall contain a Teflon<sup>®</sup> filter, a nylon filter, and two base-impregnated cellulose Whatman<sup>®</sup> filters. The Contractor shall be responsible for impregnating the cellulose filter with potassium carbonate. Upon direction by the PO, the Contractor shall coordinate the purchase of filter media with other monitoring networks to ensure consistency in sample results.



The Contractor shall perform acceptance tests on all filters before assembly. Acceptance testing shall include the extraction and analysis of a sufficient number of filters from each type of filter box to determine with 95 percent confidence that analyte contamination for the box of filters does not exceed 2 times the method reporting limit. Prior to loading of filters, each three-stage filter pack assembly shall be cleaned with deionized water, oven-dried, assembled and inspected for damage.

The Contractor shall ship filter packs to field sites for sampling. Filters shall not be used more than 30 calendar days after preparation. Laboratory blank samples shall be prepared as the filter packs are prepared. In addition, 5 percent of all field samples sent to the field shall be filter blank samples in order to evaluate the effects of preparation and shipping on sample media.

#### **14.2.2 Filter Extraction**

After sampling in the field, filter packs shall be shipped from the field sites and disassembled for extraction and analysis. The Contractor shall extract all filters using methods that produce extraction efficiencies comparable to historical CASTNET filter extraction methods. Sample extracts shall be stored at 4 degrees Celsius for at least 8 hours prior to analysis.

#### **14.2.3 Analysis of Filter Extracts**

The Contractor shall analyze filter extracts using the methods specified in Table 4 or an equivalent or better method which has been approved by the EPA.

#### **14.3 Sample Handling, Custody, and Storage**

After field sampling is completed, samples shall be sent back to the laboratory where they shall be received, labeled, and inspected for damage. Samples shall be stored at 4°C before and after analysis. Extracts shall be stored for a minimum of two years after the collection of the sample. Samples shall be tracked and managed using an automated tracking system such as bar codes or optical character recognition.

#### **14.4 Data Acquisition and Management**

The Contractor shall use a laboratory information management system (LIMS) for automatic data acquisition, efficient sample tracking and laboratory data management to the fullest extent practicable. The Contractor shall use an automated data acquisition system or provide for and document a minimum 99.99 percent data accuracy of manually entered data for all laboratory data acquisition. All data entered by manual data entry shall be validated either by independent double entry or statistically defensible means to document the minimum data accuracy.

#### **14.5 Laboratory Quality Assurance**

In order to maintain an acceptable quality of data and to establish estimates of accuracy and precision, the Contractor shall have quality assurance procedures for laboratory analysis in place. The Contractor shall randomly replicate 5 percent of the sample measurements within an analysis to assess precision.

The Contractor shall analyze the following quality control standards:

- A NIST-traceable Calibration Verification Standard produced by an independent lab shall be run after every 10 environmental samples and at the end of the batch to track instrument drift;
- A NIST-traceable reference standard produced by an independent lab shall be analyzed at the beginning and end of each run to assess accuracy;
- One method blank shall be analyzed with each extraction and
- For Ion Chromatography analyses, internal injection standards shall be prepared to assess shifts in retention time and sample injection volume.

Calibration curves shall be generated for all analyses, and all samples must fall within range of the calibration curve. Quality control standards, calibration curves, sample replicates, and filter blanks must meet the specified acceptance criteria (See Table 5). The Contractor shall document in the Quality Assurance Project Plan corrective actions for samples that do not meet these acceptance criteria. Quality assurance analyses shall be reported to the EPA quarterly using accepted laboratory methods for aggregating and calculating statistics.

To minimize the occurrence of instrument failure and system malfunctions, the Contractor shall be responsible for instrument calibration, inspection, testing, and maintenance including, but not limited to, lubrication of pumps, prevention of instrument leaks, and maintenance and replacement of valves and fittings.

### **Task 15: Operation of NADP site**

National Atmospheric Deposition Program (NADP) is structured as a cooperative program that represents coordinated efforts of many interested individuals and organizations to operate monitoring sites, report data, and oversee research activities related to atmospheric deposition. For more information on NADP, visit: <http://nadp.sws.uiuc.edu>.

Each NADP site has a sponsoring agency and an operating agency. For some sites the sponsoring and operating agencies may be the same. Site sponsors and operating participants are responsible for ensuring that the equipment, facilities, materials, resources, and people are available to operate and maintain the site. Uniformity is essential to obtain data on how the

chemical climate in the nation's ecological regions is changing over seasons, years, and even decades. This helps ensure the data are geographically representative and comparable from site to site and are an essential part of any long-term environmental monitoring network. Sites must conform to fixed site selection and installation criteria and follow standard procedures for collecting, handling, and measuring samples (NADP 2003). The EPA currently sponsors and provides operational support for several NADP network sites as well as supports a quality assurance program. The program provides information on the conditions of each site and helps determine if site equipment is functioning properly and samples collection and data provided by the site operators are in conformance with NADP standard operating procedures.

### 15.1 Purpose

The primary purpose of Task 15 is to provide for the operation and maintenance of EPA-sponsored NADP sites collocated with CASTNET sites (Table 6).

The site operator has primary responsibility for monitoring equipment operation and maintenance, physical maintenance of the site (e.g., maintaining NADP local siting criteria), weekly collection and measurement of samples, sample documentation, and submission of samples and documentation to the Central Analytical Laboratory (CAL). One or more observers may assist the site operator in these responsibilities. Excluding travel to the site, site operators generally spend about 2 hours performing the required weekly (every Tuesday) duties. Through their diligence to these duties, site operators are largely responsible for determining the quality of NADP data.

Site Operator responsibilities include:

- Travel to the field site and inspect the site and equipment every Tuesday.
- Collect the wet side bucket from the collector and the Belfort gage chart every Tuesday.
- Install a new Belfort gage chart and clean collector bucket for the next sample every Tuesday.
- Perform routine equipment maintenance or repairs as needed or prescribed.
- Transport the bucket and Belfort gage chart to the field laboratory.
- Weigh the bucket and transfer the sample it contains to a sample bottle.
- ~~For samples of 70 grams or more, remove a portion from the sample bottle to measure sample pH and conductivity.~~
- Read and interpret the event recorder and precipitation records on the Belfort gage chart to the CAL within 48 hours of sample collection.
- Perform occasional special maintenance or quality assurance tasks in cooperation with the CAL or other agencies.
- Contact the CAL with any questions about equipment or procedures.
- In addition, the NADP Program Office sponsors an annual Field Operations Training Course for new and existing site operators.

## 15.2 Site Operation Support

The Contractor shall be responsible maintaining six NADP sites as listed in Table 7.

The Contractor shall ensure that an available and trained site operator is performing the site operator duties as specified in the NADP Site Operation Manual (NADP 1999-01). This also includes identifying a designated back-up site operator for each site in the event the primary site operator is not available. In addition, shipping costs associated with sample and documentation transfer to the NADP Program Office will be considered for the EPA sponsored NADP sites both independent and collocated with CASTNET sites. ~~The Contractor shall allow for the possibility of one 2-day site visit if circumstances arise where travel to the site is necessary.~~ NADP sites that are collocated with CASTNET sites are listed in Table 6.

## 15.3 NADP Siting Criteria Problems

The Contractor shall be responsible for resolving siting criteria issues, as practical, that are identified by the NADP Program Office's Quality Assurance Manager or the Work Assignment COR. The Contractor shall work with the site operator to resolve the issues and notify the EPA Work Assignment COR when the issue(s) have been resolved.

### **Task 16: Operation of IMPROVE site**

The Interagency Monitoring of Protected Visual Environments (IMPROVE) program is a cooperative air quality monitoring effort governed by a steering committee composed of representatives from Federal Agencies: the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, and the four federal land managers – the National Park Service, the U.S. Forest Service, the U.S. Fish and Wildlife Service, and the Bureau of Land Management. In addition to the federal representatives the steering committee is comprised of regional organizations and state agencies and an associate member, the State of Arizona Department of Environmental Quality. The IMPROVE monitoring program was established in 1985 to aid in the creation of federal and state implementation plans for the protection of visibility in Class I areas as stipulated by the 1977 Clean Air Act Amendments. The monitoring network consists of (as of January 2006) 110 IMPROVE aerosol visibility sites and over 50 IMPROVE Protocol aerosol sampler sites, 15 transmissometers, 44 nephelometers, and 12 film and digital camera systems, 52 Web camera systems, among other monitoring activities. Quality data collection begins with those who operate, service, and maintain monitoring instrumentation. Therefore, it is important to have trained site operators to ensure that the monitoring station is functioning properly and IMPROVE standard operating procedures (SOPs) are followed.

CASTNET operated eight visibility or IMPROVE protocol sites through a contract to provide a core set of sites in the Eastern source regions. The network support for these sites were transitioned to the IMPROVE program in 2001, however, EPA still provides support for site operations. These IMPROVE sites are now referred to as EPA Protocol sites. The IMPROVE program is anticipating a reduction in the number of sites due to decreases in supporting monitoring budgets. The reductions will likely occur over time but may begin in FY08 and affect some of the eight sites associated with this work assignment.

The primary purpose of Task 16 is to provide for the costs of site operators associated with maintaining eight IMPROVE monitoring sites. Eight sites currently receive funding for site operation by the EPA. These include six sites that are collocated with CASTNET sites and two independent IMPROVE sites at Sikes, LA and Livonia, IN (Table 8). In addition, occasional non-routine visits by the site operator, certain utilities, and the costs of land leases such as those for sites not collocated with CASTNET, shall be included in the total cost of maintaining these sites. The site operator has primary responsibility for monitoring equipment operation and overall site maintenance (e.g., ensuring adherence with IMPROVE siting criteria), weekly collection and measurement of samples, sample documentation, and handling (submission of samples and documentation to the central laboratory). One or more observers may assist the site operator in these responsibilities. Excluding travel to the site, site operators generally spend about 2 hours performing their weekly duties under normal operating conditions. Through their diligence to these duties, site operators are largely responsible for determining the quality of IMPROVE data.

The Contractor shall be responsible for providing the necessary site operator support and costs associated with maintaining eight IMPROVE monitoring stations (see Table 8). This support may include other direct costs such as occasional non-routine visits and incidental supplies required by the site operator. The Contractor shall ensure that an available and trained site operator is performing the site operator duties specified in the appropriate IMPROVE Site Operation Manuals. This also includes identifying a designated back-up site operator for each site in the event the primary site operator is not available. The Contractor shall also ensure the site operator calls the Contractor weekly on Tuesdays to report on site operation and sample collection. The Contractor shall allow for the possibility of one or two site visits if circumstances arise where travel to the site is necessary.

#### **Task 17: Acquisition and Management of NPS data**

The Contractor shall manage data and coordinate network activities for the CASTNET sites operated by the NPS.

#### **Task 18: Infrastructure, Design, Testing, and Deployment Support - Level of Effort Tasks**

In addition to the tasks described above, the Contractor shall provide: extraneous infrastructure costs for sites; design, testing and deployment of new monitoring methods and technology for use at CASTNET sites; conduct non-routine monitoring activities; special studies or analyses associated with CASTNET or other assessments of emission control programs; as directed in task orders issued by the EPA Contracting Officer (CO). Examples of these activities include:

- Management of the site utilities, telemetry (e.g., phone or internet service) and the site land leases;
- Operate or collaborate with (e.g., collect samples at, analyze samples for, or make CASTNET facilities available to) other integrated research monitoring programs, such as the NADP, IMPROVE or other monitoring networks approved by EPA;
- Deployment and operation of gaseous ammonia monitoring devices;
- Deployment and operation of denuder-filterpack monitoring devices;
- Deployment and operation of gaseous and particulate mercury monitoring equipment;
- Operate and maintain instruments for direct measurement of dry deposition or surface fluxes of ozone, sulfur dioxide, carbon dioxide, ammonia, nitric acid by relaxed eddy correlation or gradient methods;
- Assist in air quality or deposition model development and programming;
- Design and analysis of air quality databases and novel data acquisition systems;
- Acquire and submit air monitoring data to AQS;
- Select, evaluate and install equipment at candidate monitoring sites according to network requirements and criteria;
- Provide training and conduct workshops to State, Local, and Tribal personnel on air monitoring techniques and procedures;
- Install and operate soil monitoring equipment and institute procedures for critical loads assessments and validation;
- Prepare *ad hoc* summaries of data, associated data quality information, and statistical analyses of data for temporal or spatial trends.

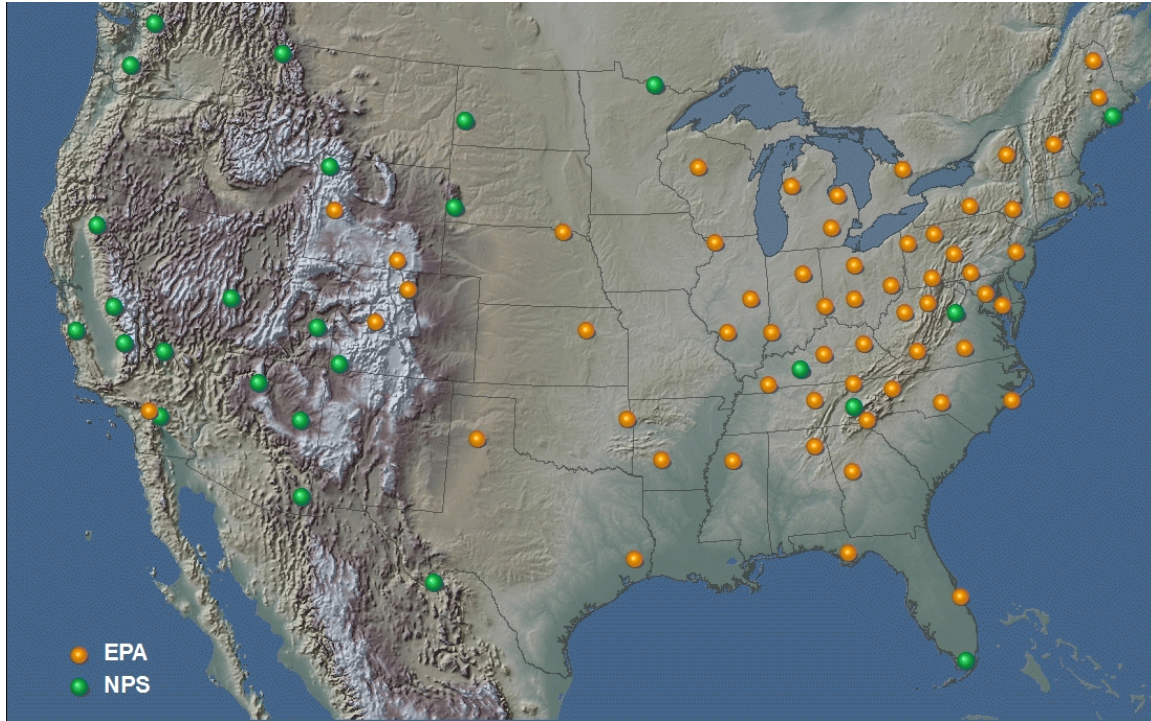
**Table 1. List of Active EPA CASTNET Monitoring Stations (October 2007)**

SITE_ID	SITE_NAME	STATE	LATITUDE	LONGITUDE
ABT147	Abington	CT	41.8402	-72.0100
ALC188	Alabama-Coushatta	TX	30.4210	-94.4045
ALH157	Alhambra	IL	38.8690	-89.6228
ANA115	Ann Arbor	MI	42.4165	-83.9020
ARE128	Arendtsville	PA	39.9231	-77.3078
ASH135	Ashland	ME	46.6041	-68.4135
BEL116	Beltsville	MD	39.0284	-76.8172
BFT142	Beaufort	NC	34.8848	-76.6203
BVL130	Bondville	IL	40.0519	-88.3724
BWR139	Blackwater NWR	MD	38.4450	-76.1114
CAD150	Caddo Valley	AR	34.1795	-93.0988
CAT175	Claryville	NY	41.9422	-74.5520
CDR119	Cedar Creek	WV	38.8795	-80.8477
CDZ171	Cadiz	KY	36.7841	-87.8499
CHE185	Cherokee Nation	OK	35.7507	-94.6700
CKT136	Crockett	KY	37.9214	-83.0662
CND125	Candor	NC	35.2632	-79.8365
CNT169	Centennial	WY	41.3642	-106.2399
CON186	Converse Station	CA	34.1941	-116.9130
COW137	Coweeta	NC	35.0608	-83.4306
CTH110	Connecticut Hill	NY	42.4006	-76.6538
CVL151	Coffeeville	MS	34.0026	-89.7990
DCP114	Deer Creek	OH	39.6359	-83.2605
EGB181	Egbert	ON	44.2320	-79.7812
ESP127	Edgar Evins	TN	36.0388	-85.7331
GAS153	Georgia Station	GA	33.1787	-84.4052
GTH161	Gothic	CO	38.9564	-106.9858
HOW132	Howland	ME	45.2158	-68.7082
HOX148	Hoxeyville	MI	44.1809	-85.7390
HWF187	Huntington Wildlife Forest	NY	43.9731	-74.2232
IRL141	Indian River Lagoon	FL	27.8492	-80.4554
KEF112	Kane Exp. Forest	PA	41.5980	-78.7674
KNZ184	Konza Prairie	KS	39.1021	-96.6096
LRL117	Laurel Hill	PA	39.9878	-79.2515
LYK123	Lykens	OH	40.9173	-82.9982
MCK131	Mackville	KY	37.7046	-85.0485
MCK231	Mackville Collocated	KY	37.7046	-85.0485
MKG113	M.K. Goddard	PA	41.4271	-80.1451
OXF122	Oxford	OH	39.5327	-84.7286
PAL190	Palo Duro	TX	34.8803	-101.6649
PAR107	Parsons	WV	39.0905	-79.6617
PED108	Prince Edward	VA	37.1655	-78.3069
PND165	Pinedale	WY	42.9288	-109.7880

PNF126	Cranberry	NC	36.1058	-82.0454
PRK134	Perkinstown	WI	45.2066	-90.5969
PSU106	Penn State	PA	40.7208	-77.9319
QAK172	Quaker City	OH	39.9428	-81.3373
ROM206	Rocky Mtn NP Collocated	CO	40.2778	-105.5453
SAL133	Salamonie Reservoir	IN	40.8160	-85.6611
SAN189	Santee Sioux	NE	42.8292	-97.8540
SND152	Sand Mountain	AL	34.2888	-85.9698
SPD111	Speedwell	TN	36.4700	-83.8268
STK138	Stockton	IL	42.2869	-89.9997
SUM156	Sumatra	FL	30.1103	-84.9903
UVL124	Unionville	MI	43.6138	-83.3591
VIN140	Vincennes	IN	38.7408	-87.4853
VPI120	Horton Station	VA	37.3297	-80.5578
WSP144	Wash. Crossing	NJ	40.3125	-74.8729
WST109	Woodstock	NH	43.9450	-71.7008



**Figure 1. Map of Active EPA CASTNET Monitoring Stations (October 2007)**



Please visit <http://www.epa.gov/castnet/> for up-to-date information.

**Table 2. List of pollutant monitoring and meteorological measurement systems deployed at a typical EPA CASTNET dry deposition site**

<b>Field Equipment</b>	<b>Description</b>	<b>Application</b>
Ozone Analyzer	Thermo Electron Corporation Model 49-103/49C/49i-with onboard ozone generator/transfer standard	Measures continuous ambient O <sub>3</sub> concentrations integrated over a hourly period
Wind Speed and Direction	Climatronics anemometer chopper wheel, R.M. Young Wind Monitor or F460 vane and translator, R.M. Young Wind Monitor	Input parameters to the Multi Layer Model
Temperature/Delta Temperature	Climatronics or R.M. Young temperature sensors	Input parameters to the Multi Layer Model
Relative Humidity	Climatronics model 100098, Rotronics MP-100F or Vaisala RH Sensor Model 102425 humidity temperature probe	Input parameter to the Multi Layer Model
Solar Radiation	LI-COR pyranometer, silicon photovoltaic sensor with R.M. Young or Climatronics translator	Input parameter to the Multi Layer Model
Surface Wetness	R.M. Young wetness sensor	Input parameter to the Multi Layer Model
Precipitation	Climatronics 8-inch heated tipping bucket rain gauge	Input parameter to the Multi Layer Model
3 Stage Filter Pack	Sequence of Filters: Teflon <sup>®</sup> , nylon, and potassium carbonate-impregnated Whatman <sup>®</sup>	Collects ambient concentrations of particulate SO <sub>42-</sub> , NO <sub>3-</sub> , NH <sub>4+</sub> , Ca <sup>2+</sup> , Mg <sup>2+</sup> , Na <sup>+</sup> , K <sup>+</sup> , Cl <sup>-</sup> and gaseous SO <sub>2</sub> and HNO <sub>3</sub> integrated over weekly periods
Flow Control	Teledyne Hastings, Tylan Mass Flow Controllers or Mykrolis Mass Flow Controller, Model FC280SAV	Maintains constant sample flow
Data Acquisition	Odessa DSM-3260 and DSM 3260L (backup) or Campbell Scientific CR3000 or ESC Model 8816	Records data for select continuous measurement parameters

**Table 3. Field Calibration Acceptance Criteria**

Measurement	Method	Acceptance Criteria
Filter Pack Flow	Mass Flow Controller	± 2% of actual flow
Ozone UV absorbance <sup>1</sup>		± 15% span ± 10 ppb zero; 1/2-days level one <sup>2</sup>
		Linearity error < 5%; Multipoint calibration 0 and 4 upscale points <sup>2</sup>
Onboard Ozone Generator (Transfer standard)		±4% or ±4 ppb (whichever greater) RSD of six slopes # 3.7% Std. dev. of six intercepts #1.5% New slope = ±0.05 of previous <sup>2</sup>
Local primary standard		Difference # ±5 % (preferably ± 3%) <sup>2</sup> Regression slopes = 1.00 ± 0.03 and two intercepts are 0 ± 3 ppb <sup>2</sup>
Trace-level NO <sub>y</sub> chemiluminescence <sup>3</sup>		± 15% span ± 3 ppb zero; 1/2-days level one <sup>2</sup>
		Multipoint calibration 0 and 4 upscale points ± 2% of full scale of best-fit straight line <sup>2</sup>
Trace-level SO <sub>2</sub> pulsed fluorescence <sup>3</sup>		± 15% span ± 0.8 ppb zero; 1/2-days level one <sup>2</sup>
		Multipoint calibration 0 and 4 upscale points ± 2% of full scale of best fit straight line <sup>2</sup>
Trace-level CO NDIR-GFC <sup>3</sup>		± 15% span ± 0.05 ppm zero; 1/2-days level one <sup>2</sup>
		Multipoint calibration 0 and 4 upscale points
Wind Speed	Anemometer	± 0.2 m/sec of actual wind speed at speeds < 5 m/sec
		± 5% of actual wind speed at speeds ≥ 5 m/sec
Wind Direction	Wind Vane	± 3° C for each cardinal point
Relative Humidity	Thin film capacitor	± 10%
Solar Radiation	Pyranometer	± 5% of average solar radiation
Precipitation	Tipping Bucket Raingage	± 0.02 inches at 0.50 inches of precipitation
Surface Wetness	Conductivity Bridge	Full-scale response to test resistance
Temperature	Platinum RTD	± 0.3°C of actual temperature
Delta Temperature	Platinum RTD at 1 m	± 0.3°C of actual temperature

[redacted] and 10 m [redacted]

<sup>1</sup>Ozone is measured at most CASTNET stations

<sup>2</sup>Quality Assurance Handbook Volume II: Part 1 (EPA-454/R-98-004)

<sup>3</sup>Gas trace-level measurements at select CASTNET stations, SOP available at <http://www.epa.gov/castnet>

**Table 4. Analytical Methods and Minimum Detection Limits for Filter Extracts**

Analyte	Filter Media	Method	Minimum Reporting Limits <sup>1</sup>	Method Detection Limit
Ca <sup>2+</sup>	Teflon <sup>®</sup>	EPA 6010B (ICP/AES)	0.006 mg/L	0.002 mg/L
Cl <sup>-</sup>	Teflon <sup>®</sup>	EPA 300.0 (IC)	0.02 mg/L	0.002 mg/L
K <sup>+</sup>	Teflon <sup>®</sup>	EPA 6010B (ICP/AES)	0.006 mg/L	0.002 mg/L
Mg <sup>2+</sup>	Teflon <sup>®</sup>	EPA 6010B (ICP/AES)	0.003 mg/L	0.001 mg/L
Na <sup>+</sup>	Teflon <sup>®</sup>	EPA 6010B (ICP/AES)	0.005 mg/L	0.002 mg/L
NH <sub>4</sub> <sup>+</sup>	Teflon <sup>®</sup>	EPA 350.1 (Automated Colorimetry)	0.020 mg/L	0.009 mg-N/L
NO <sub>3</sub> <sup>-</sup>	Teflon <sup>®</sup> , nylon, cellulose	EPA 300.0 (IC)	0.008 mg-N/L	0.003 mg/L
pH	(Precipitation only)	EPA 150.1 (pH meter)	0.01 units	0.01 units
Specific Conductance	(Precipitation only)	EPA 120.1 (Conductivity meter)	0.04 μmhos/cm	Not Applicable

SO <sub>42-</sub>	Teflon <sup>®</sup> , nylon, cellulose	EPA 300.0 (IC)	0.040 mg/L	0.015 mg/L
-------------------	---	----------------	------------	------------

<sup>1</sup>Determined as described in 40 CFR Part 136 Appendix B

**Table 5. Acceptance Criteria for Quality Control Samples**

<i>Quality Control Procedure</i>	<i>Acceptance Criteria</i>
Calibration curve (minimum 5 points) correlation coefficient	$\geq 0.995$
Calibration curve Y-intercept 95% Confidence Limit	< Reporting limits
Calibration curve responses	All samples must be within the standard calibration range.
Calibration Verification Standard	$\pm 10\%$ of true value for IC and ICP/AES analyses $\pm 10\%$ of true value for AC (NH <sub>4+</sub> ) analyses
Sample replicate	$\pm 20\%$ difference as compared to the initial sample run
Method blank	$\leq 2x$ reporting limits
Reference sample	$\pm 5\%$ of true value for IC analyses  $\pm 10\%$ of true value for ICP-AES and AC (NH <sub>4+</sub> ) analyses
Filter blank	$\leq 2x$ reporting limits

**Table 6. NADP Sites Collocated with CASTNET Sites**

<b>NADP Site ID</b>	<b>Site Name, State</b>	<b>Collocated CASTNET Site ID</b>
VA24	Prince Edward, VA	PED108
TN04	Speedwell, TN	SPD111
OH54	Deer Creek State Park, OH	DCP114
MI52	Ann Arbor, MI	ANA115
WV05	Cedar Creek State Park, WV	CDR119
OH15	Lykens, OH	LYK123
MI51	Unionville, MI	UVL124
PA00	Arendtsville, PA	ARE128
WI35	Perkinstown, WI	PRK134
NC06	Beaufort, NC	BFT142
CT15	Abington, CT	ABT147
FL23	Sumatra, FL	SUM156
IL46	Alhambra, IL	ALH157
CO10	Gothic, CO	GTH161
AZ98	Chiricahua, AZ	CHA467
VA13	Horton Station, VA	VPI120
KY03	Mackville, KY	MCK131, MCK231

**Table 7. NADP Sites Requiring Site Operation Support**



<b>NADP Site ID</b>	<b>Site Name, State</b>
NC45	Mt Mitchell, NC
CO94	Sugarloaf, CO
WA21	La Grande, WA
OR97	Hylsop Farm, OR
GA20	Bellville, GA
NY52	Bennett Bridge, NY

**Table 8. EPA IMPROVE Protocol Sites**

<b>Database ID*</b>	<b>IMPROVE ID</b>	<b>Site Name</b>	<b>State</b>
CTH510	COHI1	Connecticut Hill	NY
MKG513	MKGO1	M.K. Goddard	PA
ARE528	AREN1	Arendtville	PA
BVL530	BOND1	Bondville	IL
CDZ571	CADI1	Cadiz	KY
QAK572	QUCI1	Quaker City	OH
SIK570	SIKE1	Sikes	LA
LIV573	LIVO1	Livonia	IN

\* Site ID/designation based on CASTNET database.

3. The attachment entitled "PROPOSAL INSTRUCTIONS" has been modified. The text is as follows:

**I. Technical proposal instructions**

(1) An original and six (6) copies of the technical proposal shall be submitted as a separate part of the total proposal package. Omit all cost

or pricing details from the technical proposal.

(2) Special technical proposal instructions:

You are advised to closely read the technical proposal instructions and technical evaluation criteria before preparing a technical proposal. Written proposals shall consist of seven sections which are each linked to the corresponding evaluation criteria detailed in Section M of this RFP.

**A. General Instructions:**

In addition to the instructions in section L, "Instructions to Offerors", the following is provided. The written technical proposal shall be prepared using the following guidance:

1. **Length**--The maximum length of the technical proposals shall be limited to 200 double sided typewritten sheets of paper (400 numbered pages total) on 8 ½" X 11" recycled paper, using no less than 12 point character size and no less than 1" all around for margins. Type size limits do not apply to tables and figures, provided they are clear and readable. The following items are excluded from the above stated page limitation: letters of transmittal, commitment agreements, cover page, table of contents, dividers, Quality Management Plan, Property Management Plan and Past Performance Questionnaires. Resumes are excluded from the above stated page limitation. If foldout pages are used, they shall not exceed 11" x 17". Each foldout shall count as two (2) pages toward the page count of the appropriate volume. Foldouts do not need to be double sided. Offerors are strongly urged to be as succinct, clear and concise as possible in writing the proposal and adhering to the recommended page limitation. EPA will not evaluate or consider materials beyond the page limitation specified herein.

2. **Organization**--Offerors are advised to supply all information in the sequence and format specified below. The Offeror's proposal and supporting documentation must provide a sufficient basis for a thorough evaluation of the proposal and provide the information needed to evaluate the proposal in accordance with the evaluation factors set forth in Section M. Proposals must be placed in 3-ring binders with dividers clearly indicating the following sections:

1. Technical Approach
2. Past Performance
3. Proposed Key Personnel
4. Proposed Quality Management Plan
5. Facilities and Equipment
6. Quality Assurance Approach
7. Small Business and Small Disadvantaged Business Utilization Subcontracting Plan

**B. Required sections of the written technical proposal:**

1. **Technical Approach**-- -The technical approach must express how the

Offeror proposes to comply with each task in the Statement Of Work (SOW) and provide a full explanation of the techniques and procedures proposed. Offerors shall demonstrate their technical understanding, knowledge, capability and approach to planning, organizing and performing contract activities presented in the SOW. Offerors shall describe their ability to provide high quality products and services similar to those described in the SOW. Proposals shall be appropriate, detailed, complete, and fully demonstrate the Offeror's understanding of the requirements of the SOW and the methodology and approach to accomplishing the SOW. Stating that the Offeror understands and will comply with the SOW or using such phrases as, "standard procedures will be employed" and "well-known techniques will be used" will be deemed insufficient.

For Task 18 and **Task 1.7**: Offerors shall propose Level of Effort hours of 124,576 per contract period. Include proposed labor categories and distribution of labor hours among categories in technical approach to Task 18.

**2. Past Performance**--The Offeror shall provide the information set forth in section L, the provision entitled "PAST PERFORMANCE INFORMATION". Offerors shall ensure completed questionnaires are submitted electronically to the Contracting Officer (CO), Debra Miller, at [miller.debbie@epa.gov](mailto:miller.debbie@epa.gov). Mailed submittals are acceptable and the address is located in section G.5, Contract Administration Representatives.

**3. Key Personnel**-- The proposed Key personnel shall possess the appropriate technical and project management knowledge and expertise on the requirements and tasks described in the SOW. Offerors shall demonstrate relevant accomplishments, education, experience, availability and organization of key personnel (including subcontractors and consultants) for the tasks proposed under the contract, including but not limited to ambient air monitoring, modeling atmospheric deposition, database management, quality assurance and publications.

**Key Personnel Resumes**--Resumes for all Key personnel proposed for both prime and subcontractors are required. Resumes shall be uniform in format. The resumes shall contain specific information in both narrative and itemized formats concerning the qualifications of the proposed key personnel and their percentage of time available to support this requirement. All resumes shall be signed by the individual and a corporate official certifying the accuracy of the information contained therein.

All resumes for proposed key personnel must provide, at a minimum, the following information:

--Degrees held by each individual and/or other pertinent education. Include date(s), degree(s), and respective college or university education in which the degree(s) were received.

--Names, years of experience, training, unique qualifications, positions held (beginning with the present position and working backwards), and tenure with the firm. If the individual is proposed as a new hire, signed

Commitment Agreements between the individual and Offeror should be included in the technical proposal and will **NOT** count against the page limit.

**4. Proposed Quality Management Plan**--Offerors shall provide their (and their subcontractors) quality management plans (QMPs).

**5. Facilities and Equipment**--Offerors shall describe the equipment they will provide to supplement government furnished equipment (GFE) listed in the RFP.

**6. Quality Assurance Approach** -Offerors shall describe in detail its proposed approach to achieving and maintaining the Data Quality Objectives of the CASTNET program.

Quality Assurance and Quality Control procedures shall conform to all EPA requirements and general guidance.

**7. Small Business and Small Disadvantaged Business Utilization Subcontracting Plan** - Under this factor, the offeror will be evaluated in accordance with Clause M., EPAAR 1552.219-74 Small disadvantaged business participation evaluation factor.

## **II. COST PROPOSAL**

An original and two copies of the cost proposal are required. To expedite review of your proposal, you are requested to submit a computer disk containing the financial information required below (less financial statements) if this information is available using a commercial spreadsheet program on a personal computer. Please indicate the software program used to create this information (Excel is preferred). Offerors should include the formulas and factors used in calculating the financial information. Although submission of the computer disk will expedite review, failure to submit the disk will not affect consideration of your proposal.

The price proposal will represent the offeror's understanding of the RFP's requirements and the offeror's ability to perform efficiently. The evaluation will be based on the price reasonableness, realism, and completeness of the price proposal. Since no work will be assigned until task orders are issued, the basic contract that will result from this solicitation will be considered a fixed rate, indefinite delivery/indefinite quantity (FR-ID/IQ) type contract.

## **GENERAL INSTRUCTIONS**

A. Submit cost and pricing information prepared in accordance with FAR 15.408 and the following:

1. Clearly identify separate cost or pricing information associated with each contract year
2. Major Tasks, if required by the special instructions.

The Offeror may indicate the above cost or price-detailed information in narrative form or on a spread sheet, provided that all cost or pricing information is adequately and clearly described.

B. Clearly identify all costs and information in support of the proposed cost/price. Include the index required by FAR 15.408, Table 15-2, I.B.

C. Submit a current financial statement, including a balance sheet and a statement of profit and loss for the last completed fiscal year. Specify resources available to perform the contract without assistance from any outside source. If sufficient resources are not available, indicate in your proposal the amount required and the anticipated source (i.e. bank loans, letter or lines of credit, etc.)

D. If other divisions, subsidiaries, a parent or affiliated companies will perform work or furnish materials under this proposed contract, please provide the name and location of such an affiliate and your inter-company pricing policy. Separately identify costs and supporting information for each such entity proposed.

E. If the contract schedule includes a "Fixed Rate for Services" clause, please provide in your cost proposal a schedule duplicating the format in the clause and include your proposed fixed hour rate per labor category.

F. If the solicitation include the clause at EPAAR 1552.232-73, "Payments - Fixed Rate Services Contract," the offeror shall include in the cost proposal the estimated costs and burden rate that will be applied to travel, subcontracts, or other direct costs. The Government will include these costs as part of its cost proposal evaluation.

G. Whenever subcontractor effort is included in the proposed costs, the prime contractor shall include an additional supporting cost summary consolidating all costs (both contractor and subcontractor) by element for each contract period.

H. The offeror shall submit an official written copy of its corporate personnel policy including reimbursement of overtime paid to professional or exempt employees and corporate holidays. This policy shall also include information regarding compensation and benefit policies for full-time, part-time, and any other category of employee such as non-full time/casual labor or temporary employees.

The offeror shall describe in detail how it will charge for all non-site specific costs.

The offeror shall certify that it will comply with the Federal Travel Regulations concerning all travel and subsistence under this contract, and shall provide a copy of its corporate travel policies.

#### **SPECIFIC INSTRUCTIONS**

The purpose of these cost instructions is to assist offerors in submitting information required to evaluate the reasonableness and realism of proposed costs. Offerors should provide sufficient detail to demonstrate the

reasonableness of proposed costs. The burden of proof for credibility of proposed costs/prices rests with the offeror.

Cost information for this procurement is limited to the contractor's direct labor rates, indirect rates, and other elements required by the Government to establish price realism. All dollar amounts provided shall be rounded to the nearest dollar. All loaded labor rates shall be rounded to the nearest penny.

Cost proposals shall include:

1. Cover Letter, Title Page, Table of Contents
2. Summary descriptions of estimating, purchasing, and accounting systems
3. Changes to estimating, accounting practices, or CAS Disclosure Statement
4. Financial Statements
5. Cost and Pricing Information - including estimating methodology
6. Representations & Certifications - See Section K
7. Exceptions
8. Small Disadvantaged Business Plan (costs included) and Small Business Subcontracting Plan

The offeror shall provide a summary description of its standard estimating, purchasing and accounting systems which cover (separately) each major cost element. Also, identify any deviations from the standard estimating, purchasing and accounting procedures in preparing this proposal. State whether you have Government approval of these systems and if so, provide evidence of such approval.

The offeror shall provide a comprehensive listing of professional and technical labor categories they intend to propose for work under this contract. Labor classification statement for each proposed category of labor, describing position qualifications shall be included (see Table 1 for suggested format).

To support reasonableness, describe the basis of estimate for the proposed direct and indirect rates and factors and provide support for all elements. This support should describe any assumptions and mathematical calculations used to develop the proposed rates. In addition, if your rates have been recently approved, include a copy of the rate agreement. Otherwise, please provide documentation that shows the pool and base information, by element for each of the proposed indirect rates. A description of the treatment of all non-labor costs (subcontracts, materials, ODCs) with respect to applicable burdens, should also be provided.

For labor rate contracts, for each fixed labor rate, offerors shall identify the basis for the loaded fixed hourly rate for each contract period for example, the rate might consist of the following cost elements: raw wage or salary rate, plus fringe benefits (if applicable), plus overhead rate (if applicable), plus G&A expense rate (if applicable), plus profit. When determining the composite raw wage for a labor category, the offeror shall:

(A) provide in narrative form the basis for the raw wage for each labor category. If actual wages of current employees are used, the basis for the projections should be explained.

(B) If employees are subject to the Service Contract Act or Davis Bacon Act, they must be compensated at least at the minimum wage rate required by the applicable Wage Determination.

All indirect rates and profit shall be included in the fixed labor rate proposed for each category. This includes all costs associated with program management activities and preparation of workplans for individual task orders. The contractor shall not "double-bill" for any work (e.g. do not include contract management as a separate labor category if it is a firm's standard practice to include contract management as an indirect charge).

To facilitate evaluation of the cost proposal, the offeror may utilize the following matrix (or equivalent) to illustrate the composition of the proposed fully burdened base hourly labor rates.

**NOTE\*\*\*** - The rates developed in Tables 2 (or equivalent tables) will be utilized to populate the fixed rates and prices in the section B clause entitled, FIXED RATES FOR SERVICES - INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT.

The offeror shall identify any proposed labor category that will be performed by subcontractor(s). Subcontractors proposed as part of the team arrangement shall be billed at the rates specified for the prime contractor and not placed under Specialized Labor. Only one rate will be utilized for a specified category whether it is performed by the prime or a team subcontractor.

Labor categories are the offeror's job disciplines anticipated to be needed to perform the tasks listed in the SOW. Fully burdened hourly rates shall be developed for both On-Site/Field and Off-Site/Non-Field responses. The base rate is the current rate of the individuals or the contractor's labor categories anticipated to be performed under this contract. The burdened rates shall be based on the contractor's estimating/accounting system.

Equipment, facilities and special equipment, including tooling shall be accounted for as follows:

If direct charges for use of existing contractor equipment are proposed, provide a description of these items, including estimated usage hours, rates, and total costs.

If equipment purchases are proposed, provide a description of these items, and a justification as to why the Government should furnish the equipment or allow its purchase with contract funds. (Unless specified elsewhere in this solicitation, FAR 45.302-1 requires contractors to furnish all facilities in performance of contracts with certain limited exceptions.)

Identify Government-owned property in the possession of the offeror or proposed to be used in the performance of the contract, and the Government **agency** which has cognizance over the property.



Submit proposed rates or use charges for equipment, along with documentation to support those rates.

If special purposes facilities or equipment are being proposed, provide a description of these items, details for the proposed costs including competitive prices, and justification as to why the Government should furnish the equipment or allow its purchase with contract funds.

If fabrication by the prime contractor is contemplated, include details of material, labor, and overhead.

### **SOW Organization**

The offeror shall provide the necessary technical support as described in this SOW to assist the EPA in operation of the CASTNET program. The scope of this SOW includes specific requirements for the Core operation of the CASTNET program (Task 1) with additional tasks following to account for the number of EPA-sponsored CASTNET sites. The monetary value, technical time and operational needs vary with the number of EPA-sponsored sites and are reflected in these additional tasks.

Task 1, Core operations of the CASTNET Program includes requirements such as database management, quality assurance, training, data acquisition, field calibrations, reporting and participation in scientific meetings/conferences. Task 1 includes all procedures that are independent of or only partially dependent on the number of monitoring sites or execution of additional tasks.

Some, but not necessarily all, additional tasks will be performed at each site to allow flexibility in operation of the network. For example, the offeror shall propose a cost for the operation of one dry deposition filterpack at an average site. The final compensation amount will be the product of the price of operating one dry deposition filterpack multiplied by the number sites which a dry deposition filterpack was operated.

Many of the activities associated with the additional tasks are dependent on whether the offeror will be required to provide an operator at the site to perform the duties or if a local collaborator will perform the on-site duties for the task. For example, in operating a dry deposition filterpack at the CASTNET site in Beltsville Maryland (BEL116) the offeror would provide all services for the operation of the site; at the Cherokee Nation site (CHE185) the Cherokee Nation provides an operator for the routine tasks, but the Contractor would perform the semi-annual instrument calibration checks and other non-routine duties.

For the purposes of this solicitation, the offeror shall assume operation of the 59 EPA-sponsored sites at 58 different locations, including one collocated with the National Park Service, and manage data and coordinate network activities for 25 NPS-sponsored sites. The offeror shall provide a proposal for the Core operations of the CASTNET Program (Task 1) with Tasks 2 through 27 proposed and priced individually. In preparing cost estimates for Tasks 2 through 17, the offeror is reminded that they shall compensate for any additional cost incurred to the Core operations, by the addition of Tasks 2 through 17, in the individual cost estimates of Tasks 2 through 17.

EPA recognizes that some tasks may benefit from economies of scale. Offerors may submit different unit prices for no more than three ranges of number of

units that reflect this efficiency. Using CLIN 0002 (SOW 2.1 in Table 1 below) as an example where units are site-months of operation of a filterpack with an operator, offerors may submit three unit prices for this CLIN, one for 1 to 60 site-months of filterpack operations (i.e one to five sites operating for a year), a second for 61 to 240 site-months, and a third for more than 240 site-months. However, please note that offerors are not required to propose in the manner described above. Furthermore, the example above is not intended to direct offerors in how to prepare CLIN 0002 or any other CLIN.

The EPA anticipates services described in this section to initiate upon award of the contract. During a 90- calendar day transition period beginning no later than 15- calendar days after the contract award date the offeror shall begin coordinating the transition of operation of the network with the existing CASTNET contractor and shall begin operating all aspects of the network at the end of the 90- calendar day transition period. Transition activities shall include the extraction and analysis of up to 100 filter or filtrate samples provided by EPA to establish comparability of the offeror's laboratory analyses with historical analyses.

For Task 18 and Task 1.7: Offerors shall provide cost data consistent with Level of Effort and labor categories proposed.

#### **Assumptions**

##### Travel

~~For the purposes of this solicitation, the Offeror should assume meeting with EPA project management staff twice per year for a length of one day. The successful offeror will determine the appropriate number of their staff to attend the meeting with EPA project management.~~

All ~~other~~ travel for Task 1 shall be tasked as a Level of Effort activity. Travel for Tasks 2-17 shall be included as a task cost.

##### Third Party Audits

For the purposes of this solicitation, no more than 10 sites will be visited by State or local agencies per year. Offerors may assume, for the purposes of this solicitation, that third party auditors will visit each monitoring site and the Offeror's facility once per year.

##### Filterpack Preparation and Laboratory Analysis

For the purpose of this solicitation, the following table lists the maximum and minimum number of units that will be ordered for each year of the contract. Units will be ordered in increments of months of operation for each task. For Task 1, the units are in months of operation of the network. For Task 2 through 17 (excluding Task 14), units are the product of the number of sites operated and the number of months operated. For Task 14, units are samples prepared and analyzed. Laboratory analytical costs shall be priced as an ODC based on a fixed unit cost that is inclusive of labor and other incidental costs. Internal laboratory quality assurance costs (e.g. method blanks, replicate runs, and end of run internal standards) shall be incorporated into the unit cost. We are looking for (2) unique unit costs. The unit bases for these analytical costs shall be 1) one filterpack assembly prepared, shipped, received and analyzed from the field and 2) one audit sample received and analyzed.

**Table 1. Assumed Number of Units for Solicitation**

SOW Tasks	Description	Number of Monthly Units			
		Base Period		Option Periods 1-4	
		Minimum	Maximum	Minimum	Maximum
1	Core Operations	1	12	1	12
2.1	Dry deposition Filterpack - w/ operator	552	612	0	1200
2.2	Dry deposition Filterpack - w/o operator	96	96	0	1200
3.1	Ozone Monitoring - w/ operator	0	120	0	1200
3.2	Ozone Monitoring - w/o operator	0	0	0	1200
4.1	Ozone monitoring AQS - w/ operator	96	492	0	1200
4.2	Ozone monitoring AQS - w/o operator	36	96	0	1200
5.1	Meteorology - w/ operator	552	612	0	1200
5.2	Meteorology - w/o operator	96	96	0	1200
6.1	Trace gas NOy - w/ operator	12	48	0	1200
6.2	Trace gas NOy - w/o operator	12	72	0	1200
7.1	Trace gas SO2 - w/ operator	12	48	0	1200
7.2	Trace gas SO2 - w/o operator	12	72	0	1200
8.1	Trace gas CO - w/ operator	12	48	0	1200
8.2	Trace gas CO - w/o operator	12	72	0	1200
9.1	PM2.5 FRM mass - w/ operator	0	0	0	1200
9.2	PM2.5 FRM mass - w/o operator	0	0	0	1200
10.1	PM2.5 speciation - w/ operator	0	0	0	1200
10.2	PM2.5 speciation - w/o operator	0	0	0	1200
11.1	PM10-2.5 FRM mass - w/ operator	0	0	0	1200
11.2	PM10-2.5 FRM mass - w/o operator	0	0	0	1200
12.1	PM10-2.5 speciation - w/ operator	0	0	0	1200
12.2	PM10-2.5 speciation - w/o operator	0	0	0	1200
13.1	Continuous PM2.5 mass - w/ operator	0	0	0	1200
13.2	Continuous PM2.5 mass - w/o operator	0	0	0	1200
14	Filterpack prep & analysis	4244	4826	0	7476
	Filterpack field samples	3848	4368	0	6760
	Filterpack field blanks	193	219	0	338
	Laboratory blanks	493	219	0	338
	Artificial precipitation audit sample	10	20	0	40
15.1	Operation of NADP sampler - Collocated w/ filterpack	144	240	0	360

15.2	Operation of NADP sampler - Not collocated w/ filterpack	36	120	0	360
16.1	Operation of IMPROVE sampler - Collocated w/ filterpack	24	60	0	120
16.2	Operation of IMPROVE sampler - Not collocated w/ filterpack	24	60	0	120
17	Acquisition and Management of NPS data -	240	300	0	360

Operations of NADP sites

Occasional non-routine visits by the site operator, and the costs of shipping (sample and document transfer) shall be included in the total cost of maintaining these sites. For the purposes of estimating costs the Contractor shall assume 3 trips to EPA sponsored sites will be necessary for the year.

If the offeror takes exception to any part of the RFP, they shall include an "EXCEPTIONS" section that shall consist of any exceptions the Offeror has to the terms and conditions of the solicitation. Offerors are reminded that exceptions to the solicitation are discouraged as they may result in the proposal being determined a non-conforming counteroffer. Any exceptions to the terms or conditions of the solicitation shall only be addressed in the event discussions are held. Offerors should be aware that the appropriate time to request clarifications or exceptions to the terms or conditions of the contract as set forth in the RFP is during the proposal preparation stage before the proposal due date.

TABLE 1 - - Labor Classification Table

NOTE\*\* - - The following table is an TEMPLATE for labor classifications, job titles, experience, and job description. The offeror should provide the requested information in accordance with their accounting system and labor categories.

CATEGORY	TYPICAL JOB TITLES	MINIMUM EXPERIENCE	JOB DESCRIPTION/DUTIES

TABLE 2 - - Labor, Fully Burdened Hourly Rate

Note\*\* The following table is a TEMPLATE for 'Labor, Fully Burdened Hourly Rate.' The offeror should provide the requested information in accordance with their accounting system and labor categories.

LABOR CATEGORY	BASE RATE	BURDEN %	G&A %	PROFIT	FULLY BURDENED HOURLY RATE