

**AGENCY:** ENVIRONMENTAL PROTECTION AGENCY (EPA)

**TITLE:** “CYBER-INFRASTRUCTURE FOR AIR QUALITY MANAGEMENT”

**ACTION:** Request for Applications (RFA) - Initial Announcement.

**RFA NO:** OAR-IO-04-11

**CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO:** 66.034

**DATES:** The closing date and time for receipt of Applications is October 12, 2004, 6 p.m. EDT. Applications submitted via U.S. mail must be received in the Program Office by the closing date and time.

To allow for efficient management of the competitive process, EPA requests eligible organizations submit an informal notice of “Intent to Apply” by September 10, 2004. Submission of an Intent to Apply is optional; it is a process management tool that will allow EPA to better anticipate the total staff time required for efficient review, evaluation, and selection of submitted proposals.

**SUMMARY:** This notice announces the availability of funds and solicits proposals for a partnership to support the development of a web-based infrastructure and network of distributed air quality and emissions data and data analysis tools. The partnership will support EPA’s efforts to use the World Wide Web to improve the sharing and integration of emissions and air quality data at the local, state, regional, national, and international scales. A central part of the partnership will be the development of a central Web portal for the Networked Environmental Information System for Global Emissions Inventories (NEISGEI), an EPA-led initiative aimed at building an international, collaborative consortium of air quality emissions professionals and scientists built around a distributed, open and shared network of emissions inventories.

**FUNDING/AWARDS:** The total estimated funding for this competitive opportunity is \$375,000. In FY 2005, total funding shall not exceed \$100,000. Cooperative agreements resulting from this announcement will be funded incrementally. Additional funds may be added in each subsequent year of the agreement. EPA anticipates award of one cooperative agreement resulting from this competitive opportunity.

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## **I. Funding Opportunity Description**

### **A. Background.**

Effective air quality management requires the acquisition and analysis of a variety of types of data ranging from information about emissions and emissions-generating activities to air quality concentrations, meteorological parameters, and other environmental characteristics. These data are collected and compiled by various government agencies, as well as academic and private sector scientists and engineers, at the local, state, regional, national, and international scales. To better understand the linkages between individual air quality pollutants or between problems at different spatial scales, it is necessary to share, integrate, and analyze data from multiple data sources. However, managing data from diverse sources is often difficult and resource-intensive. Using the World Wide Web and emerging information technologies, it may be possible to improve the efficiency of efforts to share, integrate, and analyze data from diverse sources. In addition to more effectively using existing data to generate insights, such technology may be useful in generating new information to fill existing data gaps.

To meet these needs, EPA is interested in helping to develop a cyber-infrastructure for air quality management. As defined by the National Science Foundation's Blue Ribbon Advisory Panel on Cyber-infrastructure, cyber-infrastructure refers to the hardware, software, services, personnel, and organizations necessary to build new types of distributed and collaborative knowledge environments to support science and engineering.<sup>1</sup> EPA is currently supporting, directly or indirectly, a variety of individual projects that would contribute to a cyber-infrastructure for air quality management. The partnership proposed in this solicitation is intended, in part, to create a stable coordinating center that can facilitate linkages between the separate ongoing efforts both inside and outside the Agency and foster new activities that will develop and extend the cyber-infrastructure across the air quality management community.

The primary focus of the partnership described in this announcement is to advance the implementation of NEISGEI. The NEISGEI concept grew out of an interest in improving the development and sharing of emissions inventories at the international level. Staff from EPA's Office of International Affairs and Office of Environmental Information, working with OAR, first articulated a vision for a distributed emissions database using the World Wide Web to provide access and facilitate analysis of emissions data collected at the local, regional, and global scales.<sup>2</sup>

To further develop this vision, EPA and the National Science Foundations Digital Government Program organized a one-day workshop in July 2002 on developing a Web-based Environmental

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<sup>1</sup>National Science Foundation (2003) Revolutionizing Science and Engineering Through Cyberinfrastructure: Report of the National Science Foundation Blue Ribbon Advisory Panel on Cyberinfrastructure. Arlington, Virginia. <http://www.cise.nsf.gov/evnt/reports/toc.htm>

<sup>2</sup> Hemming et al. (2001). Presentation at the 2001 AWMA Emissions Inventory Conference.

Information System for Global Emissions.<sup>3</sup> The workshop organizers sought to begin the process of organizing a community of emissions inventory experts and to identify pilot projects that could contribute to the overall development of the distributed network. The workshop participants identified several areas for pilot projects, including characterizing forest fire emissions, facilitating data sharing across U.S., Canada, and Mexico; automating the integration of emissions data sets in California; and reconciling greenhouse gas and criteria pollutant inventories, which are often developed using different methodologies.

The workshop resulted in several research proposals that were submitted to the NSF for funding consideration. The NSF Digital Government program selected one of the proposals for funding: Automating the Integration of Heterogeneous EPA Databases, awarded to the Information Sciences Institute at the University of Southern California. The purpose of this research is to use semi-automated information integration methods, including data-intensive parallel translation algorithms from the machine translation community, to generate translation protocols between related information sources, e.g., between local air quality management districts in California and the California Air Resources Board, or between state environmental resources agencies and US EPA. Use on large sample data sets to automatically generate and maintain such translation protocols.

In addition, there is an effort under the Commission for Environmental Cooperation<sup>4</sup> to develop a distributed database of power plant emissions information from the United States, Mexico, and Canada. This is a first step in the development of a shared emissions inventory for criteria pollutants and greenhouse gases that the governments of United States, Mexico, and Canada committed to in 2001.

These two projects will form the first parts of a larger NEISGEI network that EPA hopes will evolve through similar focused projects using advanced information technology.

## **B. Scope of Work.**

The primary purpose of the partnership opportunity described here is to create a stable cyber-infrastructure that can coordinate and link together individual projects that contribute to the development of NEISGEI. More specifically, EPA intends for the center to:

- Develop and maintain a central web portal for NEISGEI efforts, linking contributing projects and incorporating technology, data, and analysis tools as they are developed.
- Facilitate the development of an emissions inventory expert community that will contribute to NEISGEI.

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<sup>3</sup> See <http://www.neisgei.org/>

<sup>4</sup> See <http://www.cec.org/>

- Develop data sharing, integration, and analysis methods consistent with the NEISGEI approach to current emissions inventory challenges, such as characterizing emissions from agricultural and wild fires, developing quantitative estimates of emissions in developing countries, use of satellite observations of land use and land cover, and reconciliation of greenhouse gas, toxics, and criteria pollutant inventories.
- Extend the networked, distributed database approach to other air quality management needs, including spatial analysis of air quality observations.

### **C. Supplementary Information.**

The statutory authority for this action is Clean Air Act, Section 103(b)(3) which authorizes the award of grants for research, investigations, experiments, demonstrations, surveys, and studies related to the causes, effect, extent, prevention and control of air pollution.

## **II. Award Information**

### **A. What is the amount of funding available?**

The total estimated funding for this competitive opportunity is \$375,000. In FY 2005, total funding shall not exceed \$100,000. Cooperative agreements resulting from this announcement will be funded incrementally. Additional funds may be added in each subsequent year of the agreement.

### **B. How many agreements will EPA award in this competition?**

EPA anticipates award of one cooperative agreement ranging in annual value from \$50,000 to \$100,000, subject to availability of funds, resulting from this competitive opportunity.

Cooperative agreements permit substantial involvement between the EPA Project Officer and the selected applicants in the performance of the work supported. Although EPA will negotiate precise terms and conditions relating to substantial involvement as part of the award process, the anticipated substantial Federal involvement for this project will be:

1. close monitoring of the successful applicant's performance;
2. collaboration during the performance of the scope of work;
3. approving substantive terms of proposed contracts;
4. approving qualifications of key personnel (EPA will not select employees or contractors employed by the recipient);
5. review and comment on content of publications (printed or electronic) prepared under the cooperative agreement (the final decision on the content of reports rests with the recipient);

### **C. What is the project period for award(s) resulting from this solicitation?**

The estimated project period for awards resulting from this solicitation is February, 2005 through February, 2010.

### **D. Can funding be used to acquire services or fund partnerships?**

Funding may be used to acquire services or fund partnerships, provided the recipient follows procurement and subaward or subgrant procedures contained in 40 [CFR](#) Parts 30 or 31, as applicable. Successful applicants must compete contracts for services and products and conduct cost and price analyses to the extent required by these regulations. The regulations also contain limitations on consultant compensation. Applicants are not required to identify contractors or consultants in their proposal. Moreover, the fact that a successful applicant has named a specific contractor or consultant in the proposal EPA approves does not relieve it of its obligations to comply with competitive procurement requirements.

Subgrants or subawards may be used to fund partnerships with non profit organizations and governmental entities. Successful applicants cannot use subgrants or subawards to avoid requirements in EPA grant regulations for competitive procurement by using these instruments to acquire commercial services or products to carry out its cooperative agreement. The nature of the transaction between the recipient and the subgrantee must be consistent with the standards for distinguishing between vendor transactions and subrecipient assistance under Subpart B Section .210 of [OMB Circular A-133](#), and the definitions of “subaward” at 40 CFR 30.2(ff) or “subgrant” at 40 CFR 31.3, as applicable. EPA will not be a party to these transactions.

## **III. Eligibility Information**

### **A. Eligible Entities.**

Proposals will be accepted from state, local, multi-state, and tribal governmental agencies, universities, and non-profit organizations, as defined by [OMB Circular A-122](#).

Non-profit organization, as defined by OMB Circular A-122, means any corporation, trust, association, cooperative, or other organization which: (1) is operated primarily for scientific, educational, service, charitable, or similar purposes in the public interest; (2) is not organized primarily for profit; and (3) uses its net proceeds to maintain, improve, and/or expand its operations. For this purpose, the term "non-profit organization" excludes (i) colleges and universities; (ii) hospitals; (iii) state, local, and federally-recognized Indian tribal governments; and (iv) those non-profit organizations which are excluded from coverage of this Circular in accordance with paragraph 5 of the Circular.

### **B. Cost-Sharing or Matching.**

Cost sharing or Matching is not required as a condition of eligibility, or otherwise, for proposals selected for award.

#### **IV. Application and Submission Information**

##### **A. How to Obtain Application Package.**

Applicants may download individual grant application forms, or electronically request a paper application package and an accompanying computer CD of information related to applicants/grant recipients roles and responsibilities from EPA's Grants and Debarment website by visiting: [http://www.epa.gov/ogd/grants/how\\_to\\_apply.htm](http://www.epa.gov/ogd/grants/how_to_apply.htm).

##### **B. Content and Form of Application Submission.**

Applications must contain a narrative work plan, and one completed and signed federal grant application package. The narrative work plan, a maximum of 15 pages in length, must explicitly describe the applicant's proposed project and specifically address how it meets each of the evaluation criteria disclosed in *Section V(A), Evaluation Criteria*.

1. A complete application must contain the following, in the sequential order shown:
  - a. SF-424 Application for Federal Assistance, with original signature.
  - b. Narrative Statement, in the format detailed below.
  - c. Other supporting documentation.
  - d. SF-424 A, Budget by categories and indirect cost rate.
  - e. SF-424 B, Assurances for non-construction programs.
  - f. Certification Regarding Lobbying and SF LLL, if applicable.
  - g. EPA Form 4700-4 Preaward Compliance review report.
  - h. Quality Assurance Narrative Statement, if applicable.
  - i. Copy of Negotiated Indirect Cost Rate Agreement, if applicable.
  - j. Biographical Sketch.
  - k. E-mail address or self-addressed envelope (to receive notification of receipt of application).
  
2. The narrative work plan, a maximum of 15 pages in length, must conform to the following outline:
  - a. Project Title.
  - b. Applicant Information. Include applicant (organization) name, address, contact person, phone number, fax and e-mail address.
  - c. Funding Requested. Specify the amount you are requesting from EPA.
  - d. Project Period. Provide beginning and ending dates (for planning purposes, applicants should assume funds will be available in February, 2005).
  - e. Narrative Work Plan. The narrative work plan must summarize the project and explicitly describe how the proposed project meets the guidelines established in *Section I(B), Scope of Work* and, specifically, address each of the evaluation criteria disclosed in *Section V(A), Evaluation Criteria*.
  - f. Qualifications. Summarize your technical experience and knowledge and project management experience. Demonstrate how your qualifications meet the criteria.

Resume or CV may be attached at the end of the narrative (not to be included in 15 page limit).

- g. Total Project Cost. Specify total cost of the project. Identify funding from other sources including any in-kind resources.
- h. Detailed Itemized Budget. Provide a budget for the following categories, specifying unit costs:
  - Personnel
  - Fringe Benefits
  - Contractual Costs
  - Travel
  - Equipment
  - Supplies
  - Other
  - Total Direct Costs
  - Total Indirect Costs: must include documentation of accepted indirect rate
  - Total Cost
- i. Reporting Requirements. Discuss quarterly progress updates (schedule to be established by EPA). Quarterly progress reports should include: a summary of performance progress-to-date, problems encountered, successes achieved, and development milestones.

Applicants are strongly advised to avoid submission of extemporaneous materials. Pages exceeding the maximum length will not be considered. The maximum page length shall include any pieces that may be submitted by a third party (e.g., references or letters confirming commitments). All application materials must be completed in English. The minimum acceptable font size for application materials, excluding the SF-424a, shall be 10 point.

### **C. Submission Dates and Times.**

1. To allow for efficient management of the competitive process, EPA requests eligible entities submit an informal notice of "Intent to Apply" by September 10, 2004, to the agency contact identified under *Section VII, Agency Contact*. Submission of an Intent to Apply is optional; it is a process management tool that will allow EPA to better anticipate the total staff time required for efficient review, evaluation, and selection of submitted proposals. Eligible entities not submitting an "Intent to Apply" are still eligible to apply by the closing date and time.

The written notice of "Intent to Apply" may be submitted via electronic mail. Please provide the name of your organization, a point of contact, phone number, email address, and the title of your project.

2. The closing date and time for submission of completed application packages is October 12, 2004, 6 p.m. EDT. All application packages must be received in the program office listed below by the closing date and time. Applications received after the closing date and time will not be considered for funding.

3. Because of the unique situation involving U.S. mail screening. EPA highly recommends that applicants use an express mail option to submit their applications. The application should be addressed to:

Express Delivery Address (FedEx, UPS, DHL, etc.)

US EPA  
Attn: Terry Keating  
OAR/IO/OPAR  
Ariel Rios North, Room 5442  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460  
Phone: (202) 564-1174

Regular Mail Delivery Address (U.S. Postal Service)

US EPA  
Attn: Terry Keating (Mail Code 6103A)  
OAR/IO/OPAR  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

**V. Application Review Information**

**A. Evaluation Criteria.**

Each eligible proposal will be evaluated according to the criteria set forth below. Proposals that are best able to directly and explicitly address the primary criteria will have a greater likelihood of being selected for award. Each proposal will be rated under a points system, with a total of 100 points possible.



Criterion	Maximum Points Per Criterion
<b>Central Web Portal.</b> The proposal demonstrates the ability to develop and maintain a user-friendly interactive World Wide Web portal that will link projects contributing to NEISGEI, incorporating new data, software, and analysis tools as they become available. The proposal identifies a sequence of development steps that can be incrementally funded over the project period.	25
<b>Fire Emissions Applications.</b> The proposal demonstrates the ability to apply the NEISGEI approach to the compilation, synthesis, and analysis of diverse data related to fire activity, emissions, and air quality impacts for purposes of real-time fire management, short-term air quality forecasting, and long-term air quality planning.	25
<b>Other Emissions Applications Development</b> The proposal describes research efforts and potential products that will address current challenges in emissions inventory development, such as air quality forecasting, international data sharing, and inventory development in developing countries. The proposal demonstrates the applicant’s knowledge and experience in developing applications that will contribute to and expand the NEISGEI network.	20
<b>Other Air Quality Applications Development.</b> The proposal demonstrates knowledge and experience with apply the information technologies envisioned as part of NEISGEI to non-emissions data, which may include but are not limited to air quality observations. The proposal describes research efforts and potential products, which may include applications for air quality forecasting, public information, and remote sensing data assimilation.	10
<b>Community Building.</b> The proposal demonstrates the applicant’s experience in both the information technology and air quality research arenas and its ability to facilitate interaction between the two communities. The proposal describes efforts that will promote the development, expansion, and use of the NEISGEI concept.	10
<b>Public Licensing and Accessibility of Software Products.</b> The proposal describes the applicant’s approach to software development, documentation, licensing, and distribution that will ensure the ability of users and other developers to use and build upon the software developed under this cooperative agreement.	10

**B. Other Factors.**

EPA reserves the right to make decisions on applications based on factors that help ensure geographic equity and the demonstration of a variety of different technical approaches.

**C. Review and Selection Process.**

Each proposal will be evaluated by a team chosen to address a range of activities associated with emissions inventory and information technology. The Evaluation Team will base its evaluation solely on the selection criteria disclosed in this notice (*see Section V(A), Evaluation Criteria*).

Completed evaluations will be referred to a Selection Committee that is responsible for further consideration and final selection. The highest numerically-ranked proposal(s) (subject to the quality of proposals, availability of funds, and consideration of *Section V(B), Other Factors*) will be selected for award.

## **VI. Award Administration Information**

### **A. Award Notices.**

Following final selections, all applicants will be notified regarding their application's status.

1. EPA anticipates notification to *successful* applicant(s) will be made via telephone, electronic or postal mail by November 15, 2004. This notification, which advises that the applicant's proposal has been selected and is being recommended for award, is not an authorization to begin performance. The award notice signed by the EPA grants officer is the authorizing document and will be provided through postal mail. At a minimum, this process can take up to 90 days from the date of selection.
2. EPA anticipates notification to *unsuccessful* applicant(s) will be made via electronic or postal mail by November 15, 2004. In either event, the notification will be sent to the original signer of the application.

### **B. Administrative and National Policy Requirements.**

1. A listing and description of general EPA Regulations applicable to the award of assistance agreements may be viewed at:  
[http://www.epa.gov/ogd/AppKit/applicable\\_epa\\_regulations\\_and\\_description.htm](http://www.epa.gov/ogd/AppKit/applicable_epa_regulations_and_description.htm).
2. Executive Order 12372, Intergovernmental Review of Federal Programs may be applicable to awards, resulting from this announcement. Applicants *selected* for funding may be required to provide a copy of their proposal to their [State Point of Contact](#) (SPOC) for review, pursuant to Executive Order 12372, Intergovernmental Review of Federal Programs. This review is not required with the Initial Proposal and not all states require such a review.
3. All applicants are required to provide a Dun and Bradstreet (D&B) Data Universal Numbering System (DUNS) number when applying for a Federal grant or cooperative agreement. Applicants can receive a DUNS number, at no cost, by calling the dedicated toll-free DUNS Number request line at 1-866-705-5711, or visiting the D&B website at:  
<http://www.dnb.com>.

### **C. Reporting Requirement.**

Quarterly progress reports will be required. The quarterly progress report should include: a summary of performance progress-to-date, detailed expenditures-to-date, problems encountered, successes achieved, and lessons learned. The schedule for submission of quarterly progress reports will be established, by EPA, after award.

## **VII. Agency Contact**

**FOR FURTHER INFORMATION CONTACT:** Terry Keating, U.S. EPA, Office of Air and Radiation, Office of Policy Analysis and Review, 1200 Pennsylvania Ave., NW (MC 6103A), Washington, DC 20460. Phone: (202)564-1174; Fax (202)564-1554, or email [keating.terry@epa.gov](mailto:keating.terry@epa.gov).

All questions or comments must be communicated in writing via postal mail, facsimile, or electronic mail to the contact person listed above. Answers will be posted, bi-weekly, until the closing date of this announcement at the OAR Grants/Funding webpage ([http://www.epa.gov/air/grants\\_funding.html](http://www.epa.gov/air/grants_funding.html)).

## **VIII. Other Information**

Applicants should clearly mark information in their application that they consider confidential. EPA will make final confidentiality decisions in accordance with Agency regulations at 40 CFR Part 2, Subpart B.

EPA reserves the right to reject all proposals or applications and make no award as a result of this announcement. The EPA Grant Award Officer is the only official that can bind the Agency to the expenditure of funds for selected projects resulting from this announcement.

Formal disputes challenging the Agency award decision will be resolved using the Dispute Procedures at 40 CFR 30.63 and 40 CFR 31.70.