

**REQUEST FOR PROPOSAL**

**WESTERN GOVERNORS' ASSOCIATION**

**WESTERN REGIONAL AIR PARTNERSHIP**

**DETERMINING FUGITIVE DUST EMISSIONS**

**FROM WIND EROSION**

August 1, 2002

INVITATION TO BID

DATE: August 1, 2002

RETURN BID TO:

Western Governor's Association

BID NO: 02WGA121WRAP

1515 Cleveland Place

DIRECT INQUIRIES TO: Rich Halvey

Suite 200

PHONE NO: (303) 623-9378

Denver, Colorado 80202

DATE BID DUE: September 6, 2002 2:00 PM Mountain Daylight Time

Bids properly marked as to BID NO., DATE, and HOUR of opening , subject to the conditions herein stipulated and in accordance with the specifications set forth and/or attached hereto, will be accepted at the address listed above, prior to the date and time listed for the bid opening. All bids shall be quoted F.O.B. destination, unless otherwise specified, to the delivery location or jobsite listed herein.

SEALED COMPETITIVE PROPOSAL FOR:  
Determining Fugitive Dust Emissions from Wind Erosion

**WESTERN GOVERNORS' ASSOCIATION  
1515 CLEVELAND PLACE  
SUITE 200  
DENVER, COLORADO 80202-**

Prices shall be quoted F.O.B. destination and include delivery to the Western Governors' Association. SEE ATTACHED PAGES FOR TERMS AND CONDITIONS AND PROPOSAL REQUIREMENTS.

**IMPORTANT:** Bidders should read the entire document before submitting bid.  
**BIDS MUST BE SIGNED IN INK**

\_\_\_\_\_  
TYPED OR PRINTED SIGNATURE

TERMS  
Terms of less than 30 calendar days will not be considered

\_\_\_\_\_  
Handwritten signature by Authorized  
Officer or Agent of Vendor

VENDOR \_\_\_\_\_  
ADDRESS \_\_\_\_\_

TITLE \_\_\_\_\_  
DATE \_\_\_\_\_

PHONE # \_\_\_\_\_

The above bid is subject to Terms and Conditions on attached sheets

**RETURN THIS COPY**

**PROPOSER COST SUBMITTAL**

\_\_\_\_\_  
PROPOSER'S NAME

\_\_\_\_\_  
PROPOSER'S ADDRESS STREET AND NUMBER

\_\_\_\_\_  
CITY STATE ZIP CODE

\_\_\_\_\_  
NAME OF AUTHORIZED OFFICIAL (PRINT OR TYPE)

\_\_\_\_\_  
OFFICIAL TITLE

\_\_\_\_\_  
SIGNATURE OF AUTHORIZED OFFICIAL

\_\_\_\_\_  
TELEPHONE NUMBER

\_\_\_\_\_  
E-MAIL ADDRESS

TOTAL COST \_\_\_\_\_

## RFP Terms and Conditions

1. LATE BIDS/PROPOSALS WILL NOT BE ACCEPTED OR CONSIDERED. It is the responsibility of the bidder/proposer (hereinafter "bidder" or "proposer") to ensure that the bid/proposal (hereinafter "bid" or "proposal") arrives prior to the time and at the place indicated in the bid. Telephone or facsimile responses will not be accepted.
2. Specifications are provided to identify product/service required and to establish an acceptable quality level. Bids on products of equal quality and usability will normally be considered unless otherwise stated. The Western Governors' Association (WGA) will be the sole judge in determining "equals" in regard to quality, price and performance. Samples of product(s), when required, must be furnished free of expense to the WGA, and, if not destroyed by tests, may upon request at the time the sample is furnished, be returned at bidder's expense. Failure to furnish brochures, specifications, and/or samples as requested may be sufficient cause for rejection of bids.
3. Bidders shall furnish all the information required and are expected to examine the drawings, specifications, schedule of delivery and all instructions. Should the bidder find any part of the listed specifications, terms and conditions to be discrepant, incomplete or otherwise questionable in any respect, it shall be the responsibility of the bidder to call such matters to the attention of the WGA immediately. Failure to do so will be at the bidder's risk. All official changes to this bid will be furnished, in writing by the WGA.
4. The bidder shall furnish the products and/or services in strict accordance with the specifications, and at the price set forth for each item. In case of error in extension, the unit price will prevail. All products quoted shall be newly manufactured and of the manufacturer's current model, unless otherwise specified.
5. Bidders must furnish all Material Safety Data Sheets (MSDS) for any chemicals or hazardous materials. Awards may not be made if MSDS are not received by the WGA.
6. The bid should be returned in an envelope sealed and properly marked as to bid number and opening time and date.
7. No bid shall be withdrawn for a period of less than sixty (60) calendar days subsequent to the opening of the bids, unless otherwise stipulated by the WGA.
8. Americans with Disabilities Act (ADA) Requirements. The vendor assures that, at all times during the performance of this contract, no qualified individual with a disability shall, by reason of that disability, be excluded from participation in, or be denied benefits of services, programs, or activities performed by the vendor or be subject to any discrimination by the vendor.
9. Independent Contractor. The contractor shall perform its duties herein as an independent contractor and not as an employee. Neither the contractor nor any agent or employee of the contractor shall be, or shall be deemed to be, an employee or agent of the WGA. Contractor shall pay when due all required employment taxes and income tax withholding, shall provide and keep in force workers compensation (and show proof of such insurance) and employment compensation insurance in the amounts required by law, and shall be solely responsible for the acts of the contractor, its employees, and its agents.
10. Bidder agrees to comply with all applicable federal and state laws, regulations and policies, as amended, including those regarding discrimination and unfair labor practices.

I. ADMINISTRATIVE INFORMATION

- A. ISSUING OFFICE: This Request For Proposal (RFP) is issued by the Western Governors' Association (WGA). The WGA is the sole point of contact concerning this RFP.
- B. INVITATION TO SUBMIT PROPOSALS: The WGA is hereby contacting prospective offerors who have an interest or are known to do business relevant to this RFP. All interested offerors who were not contacted are invited to submit a proposal in accordance with the rules, procedures and dates set forth herein. In the event of "No Bid", please sign the Invitation for Bid form, indicating "No Bid" and return it to the WGA.
- C. PURPOSE: This RFP provides prospective offerors with sufficient information to enable them to prepare and submit proposals for consideration by the Western Governors' Association to satisfy the need for expert assistance in the completion of the goals of this RFP.
- D. SCOPE: This RFP contains the instructions governing the proposal to be submitted and the material to be included therein; mandatory requirements which must be met to be eligible for consideration; and other requirements to be met by each proposal.

E. SCHEDULE OF ACTIVITIES:

1.	RFP PUBLISHED	<u>08/01/02</u>
2.	PRE-PROPOSAL CONFERENCE	<u>08/19/02</u>
3.	PROSPECTIVE OFFERORS WRITTEN INQUIRY	<u>08/20/02</u>
4.	PROPOSAL SUBMISSION	
	SUBMIT 10 HARD COPIES INCLUDING ORIGINAL AND ONE ELECTRONIC COPY	<u>09/06/02</u>
5.	BIDDER INTERVIEWS (OPTION OF THE WGA)	<u>09/16/02</u>
6.	PROPOSAL SELECTION (ESTIMATED/WEEK OF)	<u>09/23/02</u>
7.	CONTRACT FINALIZED (ESTIMATED/WEEK OF)	<u>10/01/02</u>
8.	CONTRACT PERIOD	<u>10/02-04/03</u>

- F. INQUIRIES: Unless otherwise noted, prospective offerors may make written inquiries concerning this RFP to obtain clarification of the requirements. No inquiries will be accepted after the date/time indicated in the Schedule of Activities. Send all inquiries to:

Western Governors' Association  
1515 Cleveland Place  
Suite 200  
Denver, Colorado 80202  
Attn: Rich Halvey  
Or e-mail at rhalvey@westgov.org

Response to offerors inquiries will be made in writing in a timely manner to all prospective offerors. Any oral interpretations of clarifications to this RFP shall not be relied upon. All changes to this RFP must be in writing to be valid.

- G. MODIFICATION OR WITHDRAWAL OF PROPOSALS: Proposals may be modified or withdrawn by the offeror prior to the established due date and time.
- H. PROPOSAL SUBMISSION: Proposals must be received on or before the date and time indicated in the Schedule of Activities. Late proposals will not be accepted. It is the responsibility of the offeror to ensure that the proposal is received by the WGA on or before the proposal opening date and time. Offerors mailing their proposals shall allow sufficient mail delivery time to ensure receipt of their proposals by the time specified. The proposal package shall be delivered or sent by mail to:

Western Governor's Association  
1515 Cleveland Place  
Suite 200  
Denver, Colorado 80202  
Attn: Rich Halvey

The WGA Invitation for Bid form must be signed in ink by the offeror or an officer of the offeror legally authorized to bind the offeror to the proposal.

Proposals which are determined to be at variance with the requirement may not be accepted.

Proposals must be submitted and sealed in a package showing the following information on the outside of the envelope:

OFFEROR'S NAME  
RFP-NO.  
PROPOSAL DUE DATE AND TIME

- I. ADDENDUM OR SUPPLEMENT TO REQUEST FOR PROPOSAL: In the event that it becomes necessary to revise any part of this RFP, an addendum will be provided to each offeror who received the original RFP. It is the responsibility of offerors, prior to the bid date, to enquire as to addenda issued, to ensure their bid reflects any and all changes. WGA will maintain a register of holders of this RFP. Any party receiving this RFP other than from the WGA should inform the WGA of its interest in order to ensure receipt of any addenda.
- J. BIDDER INTERVIEWS: Offerors who are deemed most qualified after initial evaluation may be asked to interview with the selection committee.
- K. ACCEPTANCE OF RFP TERMS: A proposal submitted in response to this RFP shall constitute a binding offer. Acknowledgment of this condition shall be indicated by the signature of the offeror or an officer of the offeror legally authorized to execute contractual obligations. A submission in response to this RFP acknowledges acceptance by the offeror of all terms and conditions, including compensation, as set forth herein. Any offeror shall identify clearly and thoroughly any variations between its proposal and this RFP. Failure to do so shall be deemed a waiver of any rights to subsequently modify the terms of performance.
- L. PROTESTED SOLICITATIONS AND AWARDS: Any actual or prospective offeror or contractor who is aggrieved in connection with the solicitation or award of a contract may protest to the Executive Director of the WGA. The protest shall be submitted in writing within seven working days after such aggrieved person knows, or should have known.
- M. COST DATA/BUDGET: Proposals for \$10,000 or more must include Cost/Data/Budget providing factual information concerning the cost of labor, material, travel, overhead and other cost elements which are expected to be incurred.
- N. CONFIDENTIAL/PROPRIETARY INFORMATION: Any restrictions on the use or inspection of material contained within the proposal shall be clearly stated in the proposal itself. Written requests for confidentiality shall be submitted by the offeror with the proposal. The offeror must state specifically what elements of the proposal are to be considered confidential or proprietary. Confidential and proprietary information must be readily identified, marked and separated/packaged from the rest of the proposal. Co-mingling of confidential or proprietary information and other information is not acceptable. Neither a proposal in its entirety nor proposal price information will be considered confidential or proprietary. Any information that will be included in any resulting contract cannot be considered proprietary.

The WGA will make a written determination as to the apparent validity of any request for confidentiality. The written decision of the WGA will be sent to the offeror.

- O. RFP RESPONSE MATERIAL OWNERSHIP: All material submitted regarding this RFP becomes the property of the WGA. Proposals may be reviewed by any person after the “Notice of Intent to Award” letter has been issued. The WGA reserves the right to use any and all information and material presented in reply to the RFP, subject to the limitations outlined in (N) Confidential/Proprietary Information. Disqualification of an offeror does not eliminate this right.
- P. PROPOSAL PRICES: Estimated proposal prices are not acceptable. Best and final offers cannot be considered in determining the apparent successful offeror. All work toward a deliverable task will be billed on a time and materials basis subject to a not to be exceeded budget for each deliverable task or contract. All work will be performed consistent with the schedule specified in the contract.
- Q. SELECTION OF PROPOSAL: All offerors will be notified in writing regarding the results of the RFP evaluation. Upon review and approval of the evaluation committee’s recommendation for award, the WGA will issue a “Notice of Intent to Make Award” letter to the apparent, successful offeror. A contract must be completed and signed by all parties concerned on or before the date indicated in the Schedule of Activities. If this date is not met through no fault of the WGA, the WGA may elect to cancel the “Notice of Intent to Make Award” letter and make the award to the next most responsive offeror.
- R. AWARD OF CONTRACT: The award will be made to that offeror whose proposal, conforming to the RFP, will be the most advantageous to the WGA, price and other factors considered.
- S. ACCEPTANCE OF PROPOSAL CONTENT: The contents of the proposal, including persons specified to implement the project, of the successful offeror will become contractual obligations if acquisition action ensues. Failure of the successful offeror to accept these obligations in a contract may result in cancellation of the award and such offeror may be removed from future solicitations.
- T. STANDARD CONTRACT: The WGA reserves the right to incorporate standard WGA contract provisions into any contract resulting from this RFP.
- U. RFP CANCELLATION: The WGA reserves the right to cancel this Request for Proposal at any time without penalty.
- V. WGA OWNERSHIP OF CONTRACT PRODUCTS/SERVICES: Proposals upon established opening time, become the property of the WGA. All products/services produced in response to the contract resulting from this RFP will become the sole property of the WGA. The contents of the successful offeror’s proposal will become contractual obligations.
- W. INCURRING COSTS: The WGA is not responsible for any cost incurred by offerors prior to the issuance of a legally executed contract or procurement document. No proprietary interest, of any nature shall occur until a contract is awarded and signed by all concerned parties.
- X. MINORITY PARTICIPATION: It is the WGA’s goal to achieve maximum participation of minorities in the procurement process. Accordingly, minority enterprises are to be utilized whenever possible. By the submission of a proposal, the offeror shall agree to utilize the maximum amount of minority business firms that the offeror finds to be consistent with the efficient performance of any resulting contract.
- Y. NON-DISCRIMINATION: The offeror shall comply with all applicable state and federal laws, rules and regulations involving non-discrimination on the basis of race, color, religion, national origin, age, or sex.
- Z. REJECTION OF PROPOSALS: The WGA reserves the right to reject any and all proposals and to waive informalities and minor irregularities in proposals received and to accept any portion of a proposal or all items proposed if deemed in the best interest of the WGA.
- AA. PARENT COMPANY: If an offeror is owned or controlled by a parent company, the name, main office address and parent company’s tax identification number shall be provided in the proposal.

- BB. NEWS RELEASES: News releases pertaining to this RFP shall not be made prior to execution of the contract without prior written approval of the WGA.
- CC: CONTRACT CANCELLATION: The WGA reserves the right to cancel, for cause, any contract resulting from this RFP, by timely written notice to the contractor.
- DD. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION:
1. By submission of this proposal, each offeror certifies, and in the case of a joint proposal each party thereto certifies, as to its own organization, that in conjunction with this procurement:
    - (a) The prices in this proposal have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other offeror or with any competitor;
    - (b) Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by the offeror prior to opening, directly or indirectly to any other offeror or to any competitor; and
    - (c) No attempt has been made or will be made by the offeror to induce any other person or firm to submit or not submit a proposal for the purpose of restricting competition.
  2. Each person signing the Invitation for Bid form of this proposal certifies that:
    - (a) He is the person in the offeror's organization responsible within that organization for the decision as to prices being offered herein and that he has not participated, and will not participate in any action contrary to (1)(a) through (1)(c) above; or
    - (b) He is not the person in the offeror's organization responsible within that organization for the decision as to the prices being offered herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate in any action contrary to (1)(a) through (1)(c) above; and as their agent does hereby so certify; and he has not participated, and will not participate, in any action contrary to (1)(a) through (1)(c) above.
  3. A proposal will not be considered for award where (1)(a), (1)(c), or (2) above has been deleted or modified. Where (1)(b) above has been deleted or modified, the proposal will not be considered for award unless the offeror furnishes with the proposal a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designees, determines that such disclosure was not made for the purpose of restricting competition.
- EE. TAXES: The WGA, as purchaser, is exempt from all federal taxes (designated as a 501(c)(3) organization) and from all state and local government use taxes. Seller is hereby notified that when materials are purchased in certain political subdivisions, the seller may be required to pay sales tax even though the ultimate product or service is provided to the WGA. This sales tax will not be reimbursed by the WGA.
- FF. ASSIGNMENT: Except for assignment of antitrust claims, neither party to any resulting contract may assign any portion of the agreement without the prior written consent of the other party.
- GG. AVAILABILITY OF FUNDS: Financial obligations of the WGA payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available. In the event funds are not appropriated, any resulting contract will become null and void, without penalty to the WGA.
- HH. INSURANCE: If the proposal so states, the contractor shall procure at its own expense, and maintain for the duration of the work, the following insurance coverages; the WGA shall be issued certificates as an additional insured.
1. Standard Worker's Compensation and Employers' Liability, as required by State statute, including occupational disease, and covering all employees at a work site.
  2. General Liability (PL & PD) (Minimum)
    - a. Combined single limit - \$600,000 written on an occurrence basis.
    - b. Any aggregate limit will not be less than \$1 million.
    - c. Contractor must purchase additional insurance if claims reduce the annual aggregate

- below \$600,000.
- d. WGA to be named as additional insured on each comprehensive general liability policy.
- e. Certificate of Insurance to be provided to the WGA within 10 working days of the receipt of the award.
- f. Insurance shall include provisions preventing cancellation without 60 days prior notice by certified mail to the WGA.
- 3. Automobile Liability (minimum). The Contractor shall carry a minimum of \$600,000 combined single limit auto insurance.
- 4. Additional coverages may be required in specific solicitations.

For any insurances that are required by this RFP, a completed Standard Certificate of Insurance form shall be provided to the WGA by the potential contractor prior to the date of any contract.

II. INDEMNIFICATION: To the extent authorized by law, the contractor shall indemnify, save and hold harmless the WGA, its employees and agents, against any and all claims, damages, liability and court awards including costs, expenses, and attorney fees incurred as a result of any act or omission by the contractor or its employees, agents, subcontractors, or assignees pursuant to the terms of the contract resulting from this RFP.

JJ. VENUE: The laws of the State of Colorado, U.S.A. shall govern in connection with the formation, performance and the legal enforcement of any resulting contract.

ACTIVITY	DATE
PUBLISH RFP	08/01/02
FORMAL BIDDERS CONFERENCE	08/19/02
COMMENT PERIOD CLOSURES	08/20/02
PROPOSAL SUBMISSION DEADLINE	09/06/02
PROPOSAL EVALUATION	09/06/02 – 09/16/02
BIDDER INTERVIEWS	09/16/02
PROPOSAL SELECTION AND ANNOUNCEMENT	09/23/02
CONTRACT FINALIZED	10/01/02

## 1.0 Background

The WRAP is engaged in an effort to implement Section 309 to the Regional Haze Rule, which is the compilation of the regional EI to be used in air quality models as a basis for tracking progress in achieving the visibility goals under this rule. The EF is charged with designing a database system to collect and manage the region's emission data. A basic element of the EF plan is to have state, local, and tribal air quality agencies in the region supply locally obtained emission data to the WRAP to populate the regional EI database. The WRAP area source emission inventory currently has no wind blown fugitive dust included because of strong concern that the base information previously used to calculate these particulate emissions, yielded false and misleading results. The EF, via the WGA, intends to issue a formal RFP to produce this EI by employing the methodology as defined in Exhibit B, "Empirical Method for Determining Fugitive Dust Emissions from Wind Erosion of Vacant Land."

The empirical method for determining fugitive dust emissions from wind erosion of vacant land relies heavily on emission factors developed using wind tunnels. Numerous wind tunnel studies have been conducted in the western United States that contain descriptions of vacant land that require categorization. Based upon the vacant land categories, wind tunnel study results should be reviewed and applied appropriately to each category. Additionally, the emission inventory must be based on meteorological data germane to the area under study. Emission factor units must be converted to the same base unit of measure for the emission inventory.

The essence of this endeavor is to satisfy the requirements of Section 309 of the Regional Haze Rule and to develop the PM<sub>10</sub> and PM<sub>2.5</sub> emission inventories for the WRAP.

### A. Goals and Objectives

The goal of the project is to develop PM<sub>10</sub> and PM<sub>2.5</sub> emission factors for fugitive dust from wind erosion of vacant land based on wind tunnel studies. Specific objectives include the following:

- 1) To demonstrate the "Empirical Method for Determining Fugitive Dust Emissions from Wind Erosion of Vacant Land" at Exhibit B.
- 2) Develop a PM<sub>10</sub> emission inventory that will apply to the WESTERN REGION.
- 3) Develop a PM<sub>2.5</sub> emission inventory that will apply the WESTERN REGION.
- 4) Ensure that the PM<sub>10</sub> and PM<sub>2.5</sub> EIs are developed using hour-by-hour meteorological data at 36km X 36km resolution for the WESTERN REGION.
- 5) Develop a general modeling methodology to calculate wind erosion, via datasets developed/compiled under terms of this RFP.
- 6) Develop program code for PM<sub>10</sub> and PM<sub>2.5</sub> for emissions modeling.

### B. Study Area

The geographic area for development of PM<sub>10</sub> and PM<sub>2.5</sub> emission factors for fugitive dust from wind erosion based on wind tunnel studies is the WESTERN REGION.

## 1.1 WGA Authority

The WGA is responsible for the initial design, implementation, and overall performance for this RFP and any subsequent contract. The WGA is authorized to enter into a contract with a contractor to provide the services outlined below. Determination of the successful completion of the contract tasks and assignments shall be at the sole discretion of the WGA.

## 1.2 RFP Terminology

Any firm that submits a proposal to the WGA pursuant to this RFP is hereinafter referred to as “Proposer”. Any proposal in response to this RFP submitted by a Proposer is hereinafter referred to as a “Proposal”. Any Proposer with which the WGA contracts for the program is hereinafter referred to as the “Contractor”. The contract between the WGA and the Contractor with respect to any tasks outlined in this RFP is hereinafter referred to as the “contract”.

The use of “shall”, “must”, and “will” in this RFP indicates a requirement or condition from which a material deviation may not be made. A deviation is material if, in the WGA’s sole discretion, the deficient response or action is not in substantial accord with the RFP requirements, provides an unfair advantage to one proposer over another, or has a potentially significant adverse effect on the quality or quantity of items or services proposed or on the cost to the WGA. However, proposers are encouraged to propose innovative or creative designs or features that would tend to have a favorable impact on program costs or technical integrity. Such designs or features, however, must be in substantial accord with the RFP requirements.

EPA: As used throughout this document will mean the United States Environmental Protection Agency.

WRAP: As used throughout this document will mean the Western Regional Air Partnership.

DIRECTOR: As used throughout this document will mean the WGA Executive Director.

MANAGER: As used throughout this document will mean the Patrick Cummins, Program Manager, Air Quality, WGA.

WESTERN REGION and/or WESTERN UNITED STATES: As used throughout this document will mean the region in the United States that contains the following: Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. The region will include on tribal lands therein contained.

UCR: As used throughout this document will mean the University of California, Riverside.

RMC: As used throughout this document will mean the Regional Modeling Center at UCR.

EF: As used throughout this document will mean the WRAP Emissions Forum.

EI: As used throughout this document will mean Emissions Inventory

## 2.0 Work Tasks

In an effort to implement Section 309 of the Regional Haze Rule, the WRAP is compiling a regional EI for PM<sub>10</sub> and PM<sub>2.5</sub> emissions. This EI will be used in air quality models as a basis for tracking progress in achieving the visibility goals under this rule. The EF is charged with compiling and maintaining a regional EI based on emissions data from state, local, and tribal air quality agencies. The EF intends to produce the regional EI by employing the methodology as defined in Exhibit B, “Empirical Method for Determining Fugitive Dust Emissions from Wind Erosion of Vacant Land.” Demonstration of this methodology for the WESTERN REGION requires: (1) collection, compilation, and analysis of wind tunnel study data, meteorological hour-by-hour data, and land-use data (at 36km X 36km resolution); (2) development of EI specific emission factors; (3) development of PM<sub>10</sub> and PM<sub>2.5</sub> EIs; (4) development of a general methodology for calculating wind erosion; (5) development of program code for PM<sub>10</sub> and PM<sub>2.5</sub> emissions modeling; and (6) application of the PM<sub>10</sub> and PM<sub>2.5</sub> emissions modeling program.

### 2.1 PROPOSED TASKS

- A. Obtain and analyze existing wind tunnel study results and data related to fugitive dust emissions for wind erosion of vacant land.
- B. Categorize vacant land based on descriptions of vacant land contained in previous wind tunnel studies in the WESTERN REGION.
- C. Identify and apply wind tunnel emission factors, based on the vacant land categorization.
- D. Obtain and analyze meteorological and land-use datasets from the RMC. The point of contact for this information is:

Gail Tonnesen  
 1084 Columbia Ave., Riverside, CA 92507  
 University of California  
 Riverside, CA 92521  
 (909) 781-5676 (Voice)  
 (909) 781-5790 (Fax)  
[gail.tonnesen@ucr.edu](mailto:gail.tonnesen@ucr.edu)

The both datasets must contain information that meet the following criteria: (1) Datasets must be specific to each 36 km X 36 km grid contained in the WESTERN REGION and (2) Datasets must match those used by the RMC in 1996.

For the land-use dataset, the data must be derived from EPA's BELD (Biogenic Emission Landcover Database). The BELD provides land-cover data for every county in the contiguous United States at 36km X 36km resolution.

For the meteorological dataset, the data must be derived from the raw MM5 (Mesoscale Model) data. This data is available for the contiguous United States at 36km X 36km resolution. The meteorological dataset must contain hour-by-hour data for 1996.

- E. Develop meteorological and land-use datasets for the WESTERN REGION. Hour-by-hour meteorological data must be matched to applicable land parcels throughout the WESTERN REGION at 36km X 36km resolution.
- F. Determine land type reservoirs, threshold wind velocities, wind events, and rainfall events based on the wind tunnel study results for each vacant land type.
- G. Develop EI specific emission factors using the reservoir determination, threshold wind speeds, wind event determination, and rainfall factors. Thereby, determining hours when wind conditions produced emissions from each vacant land parcel for the time period of the emission inventory.
- H. Apply EI specific emission factors to vacant land categories. The EI should be subdivided by time period or area when appropriate, and then totals should be calculated.
- I. Develop a general modeling methodology to calculate wind erosion, via the datasets developed/compiled under terms of this RFP.
- J. Develop program code for PM<sub>10</sub> and PM<sub>2.5</sub> emissions modeling.
- K. Prepare and provide monthly status reports for each of the project months, excluding the final project month.
- L. Prepare, coordinate, and submit the PM<sub>10</sub> EI for the WESTERN REGION.
- M. Prepare, coordinate, and submit the PM<sub>2.5</sub> EI for the WESTERN REGION.

- N. Prepare, coordinate, and submit the draft report.
- O. Prepare, coordinate, and submit the final report.
- P. Prepare, coordinate, and provide final report oral presentation.
- Q. Prepare, coordinate, and submit project data extract.

## 2.2 DELIVERABLES

- A status report for each month of the project, which is due within five (5) workdays of the last calendar day of the month, excluding the final project month. A total of five (5) status reports will be provided to the (10 copies).
- A PM<sub>10</sub> EI that would apply to the WESTERN REGION based on the methodology defined at Exhibit D (10 copies).
- A PM<sub>2.5</sub> EI that would apply to the WESTERN REGION based on the methodology defined at Exhibit D (10 copies).
- A general modeling methodology to calculate wind erosion, via the datasets developed/compiled under terms of this RFP (10 copies).
- Program code for PM<sub>10</sub> and PM<sub>2.5</sub> for emissions modeling (2 hardcopies and 2 sets of computer files of source code).
- A draft report (10 copies).
- A final report (10 copies).
- A final report oral presentation.
- A full data extract of the project will be provided (2 sets).

## 2.3 MILESTONES AND SCHEDULE

The proposed Timeline and Milestones are attached as Attachment A.

## 2.4 RESPONSIBILITIES

### A. Project Oversight Committee

An ad hoc committee composed of representatives from the WGA, the WRAP Emissions Forum, the WRAP Dust Emissions Joint Forum, and the Department of Air Quality Management, Clark County, Nevada will be responsible for the following:

- 1) Ensure that the objectives and goals are made clear to the consultant;
- 2) Set the parameters and specifications of this project, to include the beginning and ending dates;
- 3) Conduct interviews;
- 4) Review all presentations;
- 5) Select and recommend a proposal to the DIRECTOR for approval;
- 6) Gather and provide information that will assist in making recommendations;
- 7) Review the CONSULTANT'S status reports to ensure work is being completed in accordance with project specifications; and

- 8) Review and recommend approval of all RFP deliverables.

The project oversight committee and selection committee are one in the same.

**B. WRAP Forum Project Manager**

The project manager for this project will be Catherine MacDougall, Assistant Director, Department of Air Quality Management, Clark County, Nevada, telephone number 702.455.1602. Project manager is responsible for the following:

- 1) Serve as a liaison between the OWNER and the CONSULTANT;
- 2) Provide the CONSULTANT with all necessary guidance in support of the contract;
- 3) Assist CONSULTANT in obtaining reports and data from wind tunnel studies to be used in conjunction with this project;
- 4) Review the CONSULTANTS status reports to ensure that work is being completed in accordance with project specifications; and
- 5) Respond to PROPOSER'S questions concerning the scope of work for this RFP. PROPOSER'S questions regarding the selection process for this RFP may be directed to Rich Halvey, Project Manager, Air Quality, Western Governors' Association, Denver, Colorado, telephone number 303.623.9378.

**C. CONTRACTOR**

The CONTRACTOR will be responsible for the following:

- 1) Meet with the Project Oversight Committee to discuss issues related to this project;
- 2) Assign a project manager and define the project manager's responsibilities for this RFP;
- 3) Throughout the duration of the project, provide the MANAGER with monthly status reports within 5 workdays of the conclusion of each month;
- 4) Obtaining reports and data from wind tunnel studies to be used in conjunction with this project;
- 5) Review and apply data from all wind tunnel studies within the WESTERN UNITED STATES that are relevant to fugitive dust from wind erosion of vacant land;
- 6) Categorize vacant land based descriptions contained in wind tunnel studies;
- 7) Identify wind tunnel emission factors;
- 8) Obtain meteorological dataset;
- 9) Obtain land-use dataset;
- 10) Develop meteorological and land-use dataset for WESTERN REGION at 36km X 36km resolution;
- 11) Determine land type reservoirs, threshold wind velocities, wind events, and rainfall events;
- 12) Develop PM<sub>10</sub> and PM<sub>2.5</sub> EIs for specific emission factors;
- 13) Apply EI specific emission factors to vacant land categories;
- 14) Develop an algorithm for modeling;
- 15) Develop program code for computer modeling;
- 16) Prepare and coordinate a draft report;
- 17) Prepare and coordinate a final report; and
- 18) Transfer all project data via electronic media to the OWNER upon completion of the project.

**3.1 The proposal**

Proposers shall submit bids for all tasks listed. Based on the availability of funds, the WGA reserves the right to prioritize tasks or delay completion of tasks until such time as funds may become available

The schedule for individual task completion and development of any milestones shall be developed by the proposer, bearing in mind the guidance provided in Attachment A.

Proposals should contain the following information:

A. Executive Summary

This section shall serve to provide the WGA with the key elements and unique features of the proposal by briefly describing how the PROPOSER is going to accomplish the project. The Executive Summary should include a schedule of major milestones.

The Executive Summary should also include a list of high risk areas which were identified during the proposal process that are reasons for concern. PROPOSER will not be evaluated on this paragraph and cannot lose evaluation points for listing areas of concern. These concerns will be addressed with the successful PROPOSER(S) during negotiations.

B. Experience

Include a brief resume of all similar projects your firm has performed for the past ten (10) years. Each project listed shall include the name and phone number of a contact person for the project for review purposes. This section shall include documentation of the PROPOSER'S history of adherence to budget and schedule constraints. All firms are encouraged to indicate their experience of performing related work within the WESTERN REGION.

C. Staff Qualifications and Availability

Provide information concerning the educational background, experience, and professional resumes of those persons who would actually perform work on the project. Indicate the present workload of the project staff to demonstrate their ability to devote sufficient time to meet the proposed schedule.

PROPOSER(S) need not indicate the actual names of employees when submitting resumes subject to the requirements of the RFP. Fictitious names or numbers may be used, e.g., employee #1. However, if selected as a finalist, PROPOSER(S) must disclose actual employee names matching the resumes submitted to the WGA, upon verbal request, to be used in performing background verifications. The successful PROPOSER(S) shall not change proposed project personnel for which a resume is submitted without WGA approval.

D. Conceptual Treatment of Project and Work Plan

Describe in more detail the approach to the project. Include a preliminary project plan that includes the following:

- 1) PROPOSER(S) concept of the project including the methodology to be used and the major deliverables to be provided;
- 2) Any assumptions;
- 3) Any constraints; and
- 4) Proposed schedule (work plan) including tasks, milestones, dates for completion, WGA and PROPOSER resource assignments, critical path, and WGA review cycles.

E. Fees and Rates

Indicate the fixed fee amount to perform all work described in this RFP. The figure given shall be inclusive of all costs including labor, material, overhead, travel, food, lodging, and other cost elements which are expected to be incurred. The total budget for this project is not to exceed \$150,000.

Proposals must include Cost/Data/Budget providing factual information concerning the cost of labor, material, overhead, travel, lodging, and other cost elements which are expected to be incurred.

Proposal responses are limited to 25 pages, exclusive of key staff resumes and budgets, for all required

submissions.

Ten (10) hard copies and one (1) electronic copy of each proposal must be presented.

### 3.2 Contract duration and renewal

The WGA intends to sign the contract within 30 days or as soon as possible after notification to the successful proposer. The provisions of the contract will remain in force for a period not to exceed one year following the execution of the contract.

### 3.3 Amendments to the RFP

The WGA reserves the right to issue amendments in the form of addenda to this RFP prior to the date for proposal submissions. All persons known by the WGA to have received RFP's will be sent any and all amendments to the RFP. Failure to acknowledge receipt of the amendments in accordance with the instructions contained in the addenda may result in proposals being rejected. The WGA will allow a reasonable time for the acknowledgment of receipt following issuance of the amendments.

The WGA reserves the right to issue amendments after the date of proposal openings. All persons submitting proposals will be sent any such amendments. The failure to acknowledge receipt of amendments provisions stated in the previous paragraph will apply to post-opening amendments as well.

### 3.4 Submission of proposal

All proposals must be received by the WGA, 1515 Cleveland Place, Suite 200, Denver, CO 80202 on or before 2:00 PM on September 6, 2002. The proposals will be publicly acknowledged at that time.

Proposers must submit their cost proposal, rounded to the nearest dollar, on the proposal form which accompanies this RFP and sealed in an envelope. The acknowledgment of the proposers' submission will occur on September 9, 2002 or as soon as possible thereafter.

Telephone, telegraph, e-mail, or fax proposals will not be accepted.

A late proposal will not be eligible for consideration and will be returned unopened, with notification of the reason for its refusal.

### 3.5 Modification of proposal

Proposal modification by amendment will be accepted on conditions that:

- 1) the amendment arrives before the deadline for proposal submittal;
- 2) the amendment is in writing and signed by the proposer; and
- 3) the proposal, as amended, conforms in all aspects to the requirements in this RFP.

### 3.6 Withdrawal of proposal/mistakes in bid

A proposal may be withdrawn at any time prior to the proposal opening.

### 3.7 Disqualification of proposers

The WGA reserves the right to reject any and all proposals in writing, before or after the opening, for evidence of conditions including but not limited to collusion with intent to defraud or other illegal practices on the part of the proposer.

### 3.8 Non-conformance

Any proposal which does not conform to all of the requirements of the RFP may be rejected. The WGA will so notify the affected proposer in writing of the rejection and the reason for the rejection.

### 3.9 Proposers conference/questions and answers

A proposers telephone conference will be held at 2:00 p.m. Mountain Daylight Time on August 19, 2002. The call in number is (312)461-9324, access code 561007.

All questions for the proposers conference must be submitted in writing. The WGA will accept written questions through the close of business August 20, 2002. The WGA will provide a list of questions and the answers thereto, as expeditiously as possible after this conference to all persons and entities known to have received this RFP. The responses to questions will become a part of the RFP.

Any corrections or necessary revisions that are identified will result in a formal amendment to this RFP, which will be provided to all persons and entities known to have received this RFP

### 3.10 Award of contract

The contract shall be awarded to the responsible proposer determined to be the most advantageous to the WGA based on the evaluation factors set forth in Section 3.13 of this RFP. After RFP's are opened, meetings may be held with the proposers determined to be the most responsive. Discussion may be held to clarify requirements and to make minor adjustments in services to be performed and in related costs. Any change to the proposal shall be submitted/confirmed in writing by the contractor.

Before an award can be made to a proposer, the WGA reserves the right to reject any and all proposals or waive any minor nonsubstantive irregularity in proposals received. Upon selection of a proposal, the WGA will issue a Letter of Intent specifying a date by which a contract must be executed.

In the event the proposer the evaluation committee has determined to be the most advantageous withdraws their proposal, the award shall be given to the next declared most advantageous as determined by the evaluation committee.

### 3.11 WGA Preference

Any or all proposals may be rejected in whole or in part if the executive director determines in writing that such action is in the WGA's best interest.

### 3.12 Confidentiality

The contents of all proposals, correspondence, working papers, or any other medium which discloses any aspect of the proposal shall be held in the strictest confidence until notice of intent to award.

All proposals will be publicly opened. A register of proposals will be developed by the evaluation committee, providing a proposer name and description of that proposal. This register of proposals will be made public only after the contract is awarded. Confidential information submitted with proposals shall be readily separable and accompanied by a written request of confidentiality.

### 3.13 Evaluation of proposals

An evaluation committee will be established to evaluate all proposals in accordance with the evaluation factors stated in this RFP. The selection committee will utilize the "EVALUATION SHEET" at Attachment 1, Exhibit C, for evaluation of proposals. Instructions are included in the "EVALUATION SHEET". Upon completion of all evaluation and submission of all evaluation sheets to the WGA, the

WGA will compile the results of all evaluations and in rank order from the highest total score to the lowest total score. The selection committee will be provided the final results, with a detail of the ranks and scores, for a recommendation decision. The selection committee will discuss the results of the evaluation and come to a consensus as to the recommended PROPOSER. The selection committee will submit its recommendation for approval to the Executive Director of the WGA. After the initial review of the proposals by the evaluation committee, the proposers may be asked to make an oral presentation in support of their proposals. This oral presentation is scheduled for the week of September 16. It is likely that the oral presentation will be done by telephone conference. A final announcement regarding the oral interviews will be made at the bidders conference on August 19.

#### 4.0 Prime contractor responsibilities

If the proposal includes services supplied by other contractors, it will be mandatory for the successful proposer to identify them and to assume responsibility for their performance.

#### 4.1 Subcontracting

The Contractor's use of subcontractors shall not diminish the Contractor's obligations to complete the work in accordance with the contract. Each contractor shall control, coordinate and be responsible for the work of subcontractors. The contractor shall be responsible for informing all subcontractors of all terms, conditions, and requirements of the contract. The WGA reserves the right to approve all subcontractors prior to their assumption of duties on behalf of the Contractor. The Contractor shall forward to the WGA a listing of each designated subcontractor which indicates their purpose or area of participation.

#### 4.2 Patent and copyright infringement

The Contractor shall defend, protect, and save harmless the WGA, its officers, agents, and employees, against all suits at law or in equity and from all damages, claims or demands for actual or alleged infringement of any patent or copyright by reason of the Contractor's use of any equipment or supplies in connection with the contract.

#### 4.3 Conflict of interest

The Contractor and/or subcontractors must affirm in writing that he/she currently has no interest and shall not acquire any interest, direct or indirect, which would pose a conflict of interest in any manner or degree with the performance of services required by this RFP for the life of the contract.

#### 5.0 Contract general terms

A Proposer's response to this RFP shall be considered as the Proposer's formal offer. The WGA reserves the right to negotiate additional contract terms within the scope of the RFP. The signing of the contract by the WGA shall constitute the WGA's written acceptance of the successful proposal.

#### 6.0 Statement of financial condition

- 1) A firm shall provide a statement regarding its financial viability. All proof is subject to review by the WGA and acceptance or rejection is at the discretion of the WGA.
- 2) The WGA reserves the right to ask for additional information concerning financial responsibility. If a proposer unreasonably fails to provide such information, the WGA may find the proposer to be non-responsive.

#### 7.0 Related experience statement

The proposal must also contain a proposer's experience statement as described below:

- 1) The proposer must provide a list of previous and current contracts of a similar nature, if any, which were awarded to the proposer by a governmental agency and/or the private sector. A statement should provide details on its management ability as well as its technical expertise, and a listing of its projects and accomplishments.
- 2) The proposer must include the following in each list described above:
  - a. Contract duration, including dates;
  - b. Geographic area served;
  - c. Name, address and telephone number of the contracting agency which may be contacted for verification of all data submitted.

**ATTACHMENT A TIMING AND MILESTONES**

<b>RFP #20020610 MILSTONES/TIMELINE</b>							
<b>Task Number</b>	<b>Task Description</b>	<b>10/2002</b>	<b>11/2002</b>	<b>12/2002</b>	<b>01/2003</b>	<b>02/2003</b>	<b>03/2003</b>
1	Prepare and submit first project status report (10 copies).	⇄					
2	Prepare and submit second project status report (10 copies).		⇄				
3	Prepare and submit third project status report (10 copies).			⇄			
4	Prepare and submit fourth project status report (10 copies).				⇄		
5	Prepare and submit fifth project status report (10 copies).					⇄	
6	Obtain and analyze results and data from wind tunnel studies.	←————→					
7	Categorize vacant land based on descriptions of vacant land from wind tunnel studies.		←————→				
8	Identify and apply wind tunnel emission factors.		←————→				
9	Obtain and analyze meteorological and land-use datasets from the RMC.	←————→					
10	Develop meteorological and land-use datasets for the area to be studied.	←————→					

RFP #20020610 MILSTONES/TIMELINE							
Task Number	Task Description	10/2002	11/2002	12/2002	01/2003	02/2003	03/2003
11	Determine land type reservoirs, threshold wind velocities, wind events, and rainfall events based on the wind tunnel studies.	←→					
12	Develop EI specific emission factors using the reservoir determination, threshold wind speeds, wind event determination, and rainfall factors.			←→			
13	Apply EI specific emission factors to vacant land categories.			←→			
14	Develop a general modeling methodology to calculate wind erosion, via datasets developed/compiled under terms of this RFP.				←→		
15	Develop program code for PM <sub>10</sub> and PM <sub>2.5</sub> for emissions modeling.				←→		
16	Prepare and submit a PM <sub>10</sub> EI for the WESTERN REGION (10 copies).				←→		
17	Prepare and submit a PM <sub>2.5</sub> EI for the WESTERN REGION (10 copies).				←→		
18	Prepare, coordinate, and submit a draft report (10 copies).					←→	
19	Prepare, coordinate, and submit a final report (10 copies).					←→	
20	Prepare, coordinate, and provide final report oral presentation.						←→
21	Prepare, coordinate, and submit a full project data extract (2 sets).						↔

Exhibit B  
Empirical Method for Determining  
Fugitive Dust Emissions from Wind Erosion of Vacant Land

# **Empirical Method for Determining Fugitive Dust Emissions from Wind Erosion of Vacant Land**

**By**

**Catherine MacDougall  
Clark County Department of Air Quality Management**

This empirical method for determining fugitive dust emissions from wind erosion of vacant land relies heavily on emission factors developed using wind tunnels. The availability of wind tunnel results for the types of vacant land being assessed must be considered when deciding to use this method for a given application.

## **Step 1: Categorizing Vacant Land**

Vacant land within the study area must be categorized base upon the potential of the parcels to emit fugitive dust during wind events. Many wind tunnel studies have been conducted in the western United States, and the vacant land descriptions of the wind tunnel test areas should be used to categorize the vacant land within the study area. Wind tunnel tests conducted with particulate size determinations will be very helpful when preparing PM<sub>10</sub> and PM<sub>2.5</sub> emission inventories.

When categorizing vacant land, it is especially important to evaluate several factors. Does the land have vegetation, rocks or other sheltering elements? Is the soil crust intact or disturbed? Are there periodic activities on the vacant land such as vehicles or plowing that will change the land from fairly stable to unstable? It is also important to categorize the vacant land condition based upon the time period of the emission inventory. For example, crop land may be categorized as disturbed soil in a November inventory and as having vegetative cover in a July inventory. Areas with several days of snow cover should also be considered. Vacant land in annual inventories will have to be temporally allocated.

Not every parcel of vacant land will necessarily fit into a category that has been wind tunnel tested. For parcels without a specific vacant land type wind tunnel test, assumptions will need to be made of the best representative land type and uncertainties (e.g., actual emissions likely to be higher) noted. Depending on the ultimate use of the inventory, it might be best to over or under predict the potential a specific land type to emit.

## **Step 2: Identify Wind Tunnel Emission Factors**

Based upon the vacant land categorization, wind tunnel study results should be reviewed and applied appropriately to each category of vacant land. Emission factor units must be converted to be the same units of measure for the entire inventory. Wind tunnel results should be reviewed to determine if “spikes” from the initial portion of the test are presented separately or averaged into an hourly factor. Whenever possible, spikes should not be included in an hourly factor. The spike values should be included only at the beginning of each wind event.

## **Step 3: Develop Meteorological Data Set**

For the area to be studied, hourly average wind speeds, rainfall, and if available peak wind gust data should be gathered. If a study area is particularly large, several different meteorological data sets may need to be gathered, and each land parcel matched with the meteorological data that impacts that parcel.

#### **Step 4: Determine Land Type Reservoirs, Threshold Wind Velocities, Wind Events and Rainfall Events**

Based upon the wind tunnel study results for each vacant land type, the wind speed when emissions were first measured for the vacant land type, should be set as the threshold wind speed. It should be assumed that no fugitive emissions from wind erosion of the land occurred when wind speeds did not exceed the thresholds.

Most vacant land does not have an endless reservoir of the fugitive dust; however, land that has a high degree of disturbance will continue to emit throughout a wind event. Therefore, for each vacant land type, the wind tunnel results should be reviewed and a determination made on the length of time the parcel will emit for a given wind event. It is recommended that an assumption be made that parcels with sheltering elements, vegetated parcels or parcels with a soil crust will only emit during the first hour of a wind event. Parcels with a relatively high silt component or with frequent disturbance will probably continue to emit through a wind event.

What constitutes a wind event must be defined. Because most threshold wind speeds are relatively high, sustained hourly winds of 25 to 30 mph, a wind event may be defined as any time period when winds reach the threshold wind velocities separated by at least 24 hours before a new wind event is defined. For example, winds reach threshold velocities, slow down and three hours later reach threshold velocities, would be defined as one wind event. Winds reaching threshold velocities, slow down and three days later reach threshold velocities again, would be defined as two wind events.

Depending on the soils in an area, rain may have a large impact on wind erosion. Generally, days with rain should not be included in the inventory. If more than one inch of rain falls and there are colder temperatures and/or cloud cover, several days following a rain event should also not be considered. The soils in the study area should be evaluated for their ability to hold moisture. In the desert southwest only those days where rain actually falls should emissions be set to zero. In the Pacific Northwest, west of the Cascade Mountains, the following two to three days should also not be included in the emissions.

#### **Step 5: Develop Emission Inventory Specific Emission Factors**

Using the reservoir determination, threshold wind speeds, wind event determination and rainfall factors, determine hours when wind conditions produced emissions from each vacant land parcel for the time period of the emission inventory. Remember that some parcels may have no emissions during some time periods, one hour reservoirs during some time periods, or emissions throughout an entire wind event during some time periods. Generally, several parcels will have the same wind tunnel emission factor over the same time period. The number of hours wind speeds were in each wind speed category should be totaled. The number of hours can then be multiplied by the wind tunnel emission factor and a total emission factor the time period of the inventory can be calculated.

For example, for disturbed vacant land in the desert, sustained hourly winds exceeded 25 mph (the threshold wind velocity) 31 hours during one year, exceeded 30 mph nine hours and exceeded 35 mph one hour. The wind tunnel emission factors for the land type are 1 pound/hour/acre at 25 mph, 2 pounds/hour/acre at 30 mph and 3 pounds/hour/acre at 35 mph. Each time the winds exceed the threshold wind velocity was a new wind event and hours when winds exceeded the velocity but there was rain was not included. The resultant emission factor for the year for each acre of disturbed desert land was  $52 ((31 \times 1) + (9 \times 2) + (1 \times 3))$  pounds per acre.

Using the same time period, stable parcel with a limited reservoir emitting only the first hour of a wind event would have a much lower emission factor. If sustained winds exceeded 25 mph on 12 days, exceeded 30 mph for 4 days and exceeded 35 mph for one day, and the emission factors from the wind tunnel study were the same (usually they are considerably lower), the resultant emission factor for the year for each acre of stable vacant land would be 23 pounds per acre.

Emission factors will vary from time period to time period and from vacant land type to vacant land type. Generally speaking, disturbed lands will have unlimited reservoirs and lower threshold wind velocities leading to much higher emissions than stable or sheltered parcels with one hour reservoirs. An emission factor should be developed for each vacant land category in the inventory.

#### **Step 6: Apply Emission Inventory Specific Emission Factors to Vacant Land Categories**

Once emission inventory emission factors have been developed, the number of acres in each category should be multiplied by the factor and the emissions totaled. It may be useful to develop and apply certain factors over shorter time periods and then total the emissions over a longer time period. For example, develop winter factors and summer factors and then total them together for the annual inventory.

For larger areas, where vacant land categories will change over the duration of an inventory or different meteorological data sets will apply, it is advisable to subdivide the inventory by time period or area, and then total the inventory at the end.

#### **Available Wind Tunnel Data**

Several wind tunnel studies have been completed. The results of these studies have been published. The Clark County Department of Air Quality Management, the Great Basin Air Pollution Control District, and Washington State University have compiled most of these studies.

Exhibit C  
EVALUATION SHEET

**EVALUATION SHEET**  
**RFP 02WGA121WRAP**  
**Determining Fugitive Dust Emissions from Wind Erosion**  
**Based on Wind Tunnel Studies**

**INSTRUCTIONS**

Each evaluator is to review the RFP and each PROPOSER'S proposal. Use a separate evaluation form for each proposal. List the name of the PROPOSER being evaluated in the space indicated below.

The total points allowed for each proposal is 100. Each factor for evaluation is allotted a portion of the 100 points. The evaluator will apply a score for each factor, which must not exceed the allotted points. A score of "0" indicates the lowest assessment a PROPOSER can receive based on RFP requirements. Scores above "0" indicates a higher (a more positive) assessment with RFP requirements. The better the proposal, the higher the total score. After each factor is scored, total your final score, sign, and date the disclaimer at the bottom of each page and submit all evaluation sheets to the MANAGER.

Name of PROPOSER:	Allotment	Score
1. Experience and Credentials	15	
2. Staff Qualifications and Availability	15	
3. Conceptual Treatment of Project and Work Plan	25	
4. Total Project Cost and Project Fees	25	
5. All Other Evaluation Information in the RFP	20	
<b>TOTAL</b>		
Comments (If needed, you may use the back of the page for additional comments):		

NOTE: "All Other Evaluation Information in the RFP," includes all other factors for evaluation listed under "EVALUATION INFORMATION" of this RFP, exclusive of "Experience," "Staff Qualifications and Availability," "Conceptual Treatment of Project and Work Plan," and "Project Fees."

Disclaimer:

Since this RFP has been solicited, I have had no individual or personal contact regarding this RFP with any of the PROPOSERS submitting proposals to the OWNER nor have I advised any of said PROPOSER(S) about this RFP solicitation, which would give them an advantage over other PROPOSERS.

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SIGNATURE

DATE