

WORK PLAN

Project Title

Managing Air Quality in Garfield County,
Colorado's Most Active Energy Development Region

EPA Funding Program

US Environmental Protection Agency Region 8
Regional Geographic Initiatives Grant Program

Funding Amount

\$107,000

Submitted By:

Garfield County Public Health

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Introduction:

This Work Plan expands on the proposal Garfield County Public Health submitted late last year for funding under the Regional Geographic Initiative (RGI) grant. We are providing additional detail at the request of EPA Region VIII, after receiving comments on the initial funding proposal.

We welcome EPA's involvement as a cooperating agency and understand this project will be governed by an EPA Cooperative Agreement. EPA anticipates substantial involvement between its technical monitoring coordinator, its project officer and Garfield County Public Health and its partners, including the Colorado Department of Public Health and Environment (CDPHE). We expect such involvement to include:

- Monitoring of our performance to verify project results
- Collaborating during performance of the scope of work
- Reviewing qualifications of key personnel
- Reviewing and commenting on reports prepared under this Cooperative Agreement
- Performing an initial site visit (by EPA's technical monitoring coordinator) within 30 days after start of monitoring, if EPA travel funds are available

We are eager to get started on this important project and excited about the opportunity to utilize the expertise and other resources of EPA.

Threshold Requirements

Who and Where We Are (Type of Agency and project geographic location)

Garfield County Public Health is a local agency that provides a variety of public health services to the community.

Garfield County is located in Western Colorado. It is bounded on the east by the Glenwood Canyon and the Flat Tops Wilderness area and on the west by the Colorado state line. Eastern Garfield County is mountainous with alpine environments that are home to skiing and numerous other recreational and tourism opportunities. The western third of the County is dominated by desert climates and is sparsely populated by ranchers. The central third of the county is predominantly agricultural. However, this region has recently and rapidly developed into the bedroom communities for the wealthy tourism centers of Eagle and Pitkin counties. This central region has also become "ground zero" for the explosively growing energy development industry, with natural gas among the primary resources of interest. Gas field development is expected to expand into the western region of the County in the coming years.

Garfield County reinvested in an environmental health program and hired personnel in 2005 as a direct response to concerns about the rapid expansion of the oil and gas industry in the County. Garfield County Public Health is committed to assuring that all

residents have access to resources that promote optimal health, safety and well-being. We work daily to fulfill our mission to prevent disease and to promote healthy behaviors.

To achieve our goals, Garfield County, along with its partners, the Colorado Department of Public Health and Environment (CDPHE), the Garfield County Energy Advisory Board and the Grand Valley Citizens Alliance, will demonstrate effective use of funding from EPA's Regional Geographic Initiatives Grant Program in the amount of \$107,000.

Project Description, Need, Related Accomplishments to Date and Specific Activities

The overarching goal of this study is to further develop the basis for decisions on how Garfield County can best manage impacts of air pollution caused by energy development. Through a well-timed combination of targeted ambient air quality monitoring, emission inventory development and community education and outreach, Garfield County and its partners will be able to more fully assess the health and eventually welfare, effects of emissions from Colorado's most active oil and gas development region on ambient air quality standards; and air quality related values. Ultimately, this effort will allow us to achieve a pressing specific goal: creation of a comprehensive community-based air quality management plan and implementation strategy that enjoys broad support. Moreover, this effort will offer specific recommendations about how Garfield County and CDPHE can best characterize air quality and determine what the related health risk from energy development is under a variety of conditions (temporal, spatial/topographic, and meteorological). An added benefit will be transferable work products and process designs that can be used in numerous places in Colorado and throughout the energy rich western U.S.

Current information indicates that to date, over 3600 natural gas wells and associated development and production facilities have been constructed in Garfield County. Industry projections predict that Garfield County will be home to over 20,000 natural gas wells along with all associated infrastructure in the next 10-15 years.

With oil and gas development predicted to increase at such rates, we are concerned about our ability to inventory, permit and control related stationary and mobile air emissions; and thus manage this unprecedented growth. Presently air emissions from all but a small number of larger gas well development and production sources (including those from drilling equipment, hydraulic fracturing rigs and exploratory phase raw gas venting), are exempt from air toxics emission regulation, as well as New Source Review permit requirements governing emission sources of criteria air pollutants. Additionally, the inventory of mobile-source emissions is growing rapidly. The sources of these emissions include diesel-powered vehicles servicing these sites which often travel on dirt roads passing close to homes of local residents. Emissions from vehicles traveling along Interstate-70 and the Union Pacific Railroad are also growing rapidly. These transport corridors traverse the Colorado River Valley (and Garfield County) and are experiencing more frequent and larger numbers of vehicles that supply construction material demands of the natural gas industry.

Furthermore, our capacity to perform in the face of the responsibilities that come from this unprecedented growth is limited. While the County is making investments to address this concern¹, we need help to fully position ourselves for meeting these coming challenges. To date, CDPHE has issued about 800 stationary source permits in Garfield County predominantly for natural gas well sites, condensate tank batteries, compressor stations, evaporation ponds, gas plants and other oil and gas facilities. These permitted industrial sites, as well as the many other smaller ones not subject to permitting requirements, are frequently within a few hundred feet of local residences. This all means we need a better understanding and response plan for our citizens.

The State is presently considering regulatory changes that would allow permit (and BACT) requirements to apply to smaller stationary sources, thus giving us more authority for managing air quality. Even with the relatively small number of permits issued under existing authorities, our ability to enforce permit conditions is becoming more difficult. With initial emission permit inventories indicating a growing number of industrial sites, we know we face an increasing challenge to adequately conduct compliance monitoring and enforcement. We anticipate this project will help establish both the need for and future support for additional investments to fully perform this essential job of a local environmental health department.

To begin tackling these challenges, Garfield County in 2005 invested in and embarked on a 2-year air quality monitoring study (total investment through 2007 is approximately \$325,000 of county general fund money) to begin characterizing ambient air quality in the central part of the County. Both PM10 and volatile organic compounds are presently being monitored to gauge the environmental impacts and potential health risks associated with air in both rural and urban areas along with active and planned natural gas fields.

In addition to regional ambient air monitoring, staff and citizens are working hard to characterize air quality during odor events by taking grab samples in detectable odor plumes. The results of these sampling events have determined that some citizens are or may be episodically exposed to significantly higher than ambient concentrations of volatile organic compounds, including benzene, a known human carcinogen. Dr. Michael Wilson, chief of the Environmental Epidemiology Section of the Colorado Department of Public Health and Environment, and a member of the Garfield County Air Quality Technical Work Group, has suggested that given the peak concentrations in the odor plumes sampled in this manner are unknown, and since repeated exposures may be taking place for certain residents, these exposures warrant careful evaluation.

The emission inventory under development includes air toxic and criteria pollutants. We will continue working with CDPHE to ensure it can easily be converted to EPA's National Emission Inventory Format. As discussed below in more detail, the proposed

¹ Garfield County hired a Registered Environmental Health Specialist in 2005 to initially manage a 2-year Ambient Air Quality Monitoring Study and a Human Health Risk Assessment. Additionally, the County created the Energy Advisory Board, consisting of energy industry representatives, local and regional government, and others to help guide responses to area's rapidly growing energy industry (see attached letter of support).

project will refine ongoing monitoring effort and perhaps add to the existing monitoring network.

The Saccomanno Research Institute of St. Mary's Hospital in Grand Junction, Colorado has also been retained to evaluate health risks posed by environmental exposures. This study group is working closely with the Garfield County Air Quality Technical Work Group and the Grand Valley Citizens Alliance to coordinate studies, identify ongoing funding sources and identify additional monitoring needs to gain a stronger understanding of human health impacts from all emission sources. Follow-up efforts and collaboration will be needed to better characterize emissions and associated health risks involving industrial facilities in close proximity to residential areas.

The proposed study is designed to supplement work that is relatively regional in nature and currently underway. We believe that since Garfield County is relatively new to air quality issues that capture the attention of leaders, citizens and industry alike, our current efforts may well raise more questions than they answer. We believe this is also true in large part because of the insufficient specific data. Garfield County desires to leverage our investments to date to fill data gaps, build a more robust site specific database, and use this information to inform and lead our citizens toward a strong air quality management approach. In turn this will lead us to healthier citizens, by assuring that we always meet ambient air quality standards and protect air quality related values.

To address our present needs and accomplish our goals, we propose to use EPA funds for the following specific activities:

Task 1:

Design and initiate a short-term targeted air quality monitoring program (using nationally acceptable methods and protocols) that focuses on several energy development operations based on their proximity to homes/businesses in Garfield County. This program will be designed to characterize the exposure of citizens to air toxics and PM 2.5 emissions from oil and gas operations. The targeted operations will likely be production wells, condensate tanks, drill rigs and well completion equipment. Results will be evaluated with those of the more broadly defined 2-year Garfield County ambient air quality monitoring study (which is ongoing for VOC's and PM10) to ascertain the extent of public exposure to energy-related air pollutant levels. We may also be able to add to and inform U.S. Forest Service (White River) and other efforts to ascertain potential impacts of ozone on forests/National Parks in the region. Ultimately, these related efforts will offer an important perspective on public health, as well as welfare concerns to citizens and regional air quality planners; as well as add to the air quality information base in the region.

For the air monitoring proposed as part of this task, a Quality Assurance Project Plan (QAPP) will be developed by Garfield County and CDPHE, and will be approved by EPA prior to the commencement of field sampling.

Since this monitoring is specifically targeted at oil and gas related activities, we propose to use EPA Method TO-12 for non-methane organic compounds (NMOCs) for air toxics monitoring. In addition to total NMOCs, we will perform speciation for the 54 individual “PAMS” NMOCs, at a minimum. We have monitored levels of other true “air toxics” have via EPA Method TO-15, so we see no additional need for this effort. The NMOCs are also implicated as ozone precursors; an air quality management topic of increasing interest for the region; and we will be sure to share this information with those focused on regional ozone issues. Garfield County will use an analytical laboratory that has successfully completed the proficiency audit comparison test (PT). If the laboratory used by Garfield County has not completed a PT, then Garfield County will arrange for the laboratory to participate in EPA’s next round laboratory contracting. Cost for this service, which would be paid by Garfield County, is \$750, when scheduled with regular NATTs.

Since PM10 monitoring has been performed in the Garfield County area, no such additional monitoring appears needed at this time; particularly given the low levels that have so far been detected. No PM2.5 monitoring has been performed to date in the Garfield County area. With the oil and gas activities, the emissions from diesel engines are in the PM2.5 size fraction, including trucks and rig engines. Thus, PM2.5 concerns have developed from nearby residents and we believe they should be evaluated and if necessary, addressed.

CDPHE will assist Garfield County with locating monitoring sites, processing data, evaluating data and report writing. CDPHE will likely provide PM2.5 samplers for the short-term study. Summa canisters for NMOCs will be from an analytical lab as part of their analysis costs. Flow controllers for the canisters will need to be purchased or may be included as part of the canister analysis cost (depending on the lab selected).

NMOC and PM2.5 monitoring will be performed around a number of different oil and gas source types, including drilling rigs, completion equipment, production wells and condensate tanks. At least three 24-hour samples will be taken in each of the four cardinal directions around a source, plus some grab samples in known plumes.

Task 2: With help from the CDPHE we will fill gaps in the Garfield County emission inventory. CDPHE has the overall responsibility for developing and updating state-wide emission inventories; including those for oil and gas source emission inventories. Our efforts already underway include developing an inventory for air toxics and criteria pollutants; and we are working in close association with CDPHE. We will accomplish this task by evaluating actual and potential emissions from a variety of sources associated with the oil and gas industry. Data sources may include source monitoring data from a variety of studies and literature as well as local air monitoring data.

Task 3: Fully utilizing nationally acceptable methods and models, develop for regulators and professionals an assessment and analysis of the air quality issues facing Garfield

County and means available for addressing them². This effort will involve significant oversight and involvement by the CDPHE and be led by Garfield County. CDPHE will provide guidance and input to each item listed below and review all work products for accuracy and consistency with state and federal guidelines and initiatives. Since EPA will be a cooperating partner in this effort; EPA will provide similar expertise. Efforts under this task will include:

- Analyzing all current and historical air monitoring data and emission inventories
- Evaluating energy development activities on air quality standards and air quality related values
- Presenting all monitoring data for public information
- Identifying concerns regarding air quality in Garfield County (citizen, government, others)
- Presenting and prioritization of available measures for addressing concerns
- Providing recommendations for the County (and possibly State) approval for protecting air quality and associated values in Garfield County

Task 4: Using the combined experience within our own community and extensive CPDHE experience communicating risk to communities, we will complete an initial 3-5 page “Citizens Guide to Air Quality in Garfield County”. Its purpose is to develop a baseline of information that all citizens can understand. This guide will also help establish a common place from which a community dialogue on this issue can be advanced.

The guide will communicate in general terms key aspects of Task 3 for use in initial community meetings that will be scheduled to introduce what we know about air quality trends and their impacts to the people and air quality values in Garfield County. The guide will convey what we know about air quality and human health issues in Garfield County. Using this guide will help define attitudes about air quality, as well as identify and implement future public involvement approaches for generating key support for necessary air quality control measures. In short, this product will serve to inform the community and assess its pulse on these issues. In turn we will have positioned ourselves well to advance measures to address air quality concerns.

The following specific steps will be taken to develop the Citizen’s Guide:

- Meet with CDPHE and other project partners to discuss and define key guide components and develop a strategy for effectively distributing and communicating the guide (including media strategy)
- Write and circulate for review among project partners a draft guide outline
- Write the draft guide
- Circulate the draft guide for review among partners

² In determining which nationally acceptable methods and models to use, we will consider EPA’s Air Toxics Risk Assessors’ Library Volumes 1-3 for guidance on conducting local assessments and on communicating results to affected communities; as well as other applicable nationally accepted resources. We will also review the work of EPA Region IV and associated national guidance on using monitoring data in risk assessments.

- Write the final guide
- Distribute the guide and conduct agreed upon media efforts.

These work products will afford Garfield County and its partners a much stronger foundation from which to manage air quality and design supportable programs for doing so, while accounting for other highly valued assets in our community, such as jobs and quality of life.

We propose to conduct the work outlined in the tasks above by building on and complementing work that Garfield County and its partners have already initiated or completed. We feel the need for this effort is crystal clear and will guide future efforts to protect public health in the Garfield County.

Alignment with EPA Regional Priority Funding Program

This project is not only well aligned with the following *EPA Regional Priorities*, but it also offers enormous potential for knowledge transfer and application elsewhere in Region VIII:

- **Energy** - Garfield County and the region around it constitute one of the Country's most active energy development regions. The Piceance Basin is also home to huge oil shale development potential. This region is viewed by the federal government as the country's largest proven, undeveloped gas reserve that will likely help ensure the nation's energy security. EPA is interested in efforts to address environmental affects of all types of energy development including oil, gas, shale, coal, etc; as well as aspects of energy including resource exploration, development, production, transmission, storage and distribution. This project encompasses all these goals, while ensuring we take little steps, learn from them and make necessary adjustments needed to assure success.
- **Enhancing State or Tribal Capacity to Provide Public Health and Environmental Protection** - Garfield County and its partners (business, government, colleges/schools, environmental interests) have already initiated a collaborative effort to better understand available options and pursue efforts to protect public health and the environment. This is a clearly stated priority of the EPA. By undertaking the project briefly described above, we are adding key investment funds for additional well - defined necessary steps. This will allow us to protect public health and air quality values sooner than later; another EPA priority.

This project also falls neatly into EPA's *Regional Geographical Initiatives (RGI)* Funding Program, which serves in the RFP as the funding mechanism EPA is using to pursue its regional priorities. Air quality is one of the specifically identified projects or topics supported by the RGI. Within the air quality category, EPA is interested in proposals that address one of the following:

- Projects that address community-based air toxics – including those that promote coordination and acceleration of research, investigations, surveys, studies, etc; with particular encouragement for proposals that go to education and outreach activities

related to air toxics and/or demonstration projects that implement mitigation measures.

- Projects that address air quality related issues from energy (and agriculture) – including those that address through research, investigations surveys, studies, etc the identification and minimization the impacts of energy sector air emissions on ambient air quality and air quality related values, such as visibility/regional haze. The types of projects EPA is interested in include: developing/improving emission inventories, monitoring, evaluating and quantifying air pollutant loads and their sources; developing/implementing best management practices for controlling emissions to protect public health.

The project described above has been carefully designed to advance and accelerate our understanding of the true nature of the air quality concerns facing the people in our region, as well as help leaders and citizens alike to better understand the nature of the problem, how we should go about solving it and how they can help. Furthermore, the project components are not only ones we need to pursue, but they are clearly consistent with those EPA has highlighted as interested in supporting.

Consistency with RGI Strategic Plan Goals and Objectives

This project supports progress towards EPA's Strategic Plan Goal 4, Healthy Communities and Ecosystems, Objective 4.2, Communities, Sub-Objective 4.2.2, Restore Community Health, Program/Project, Regional Geographic Initiatives. This project also supports progress towards Goal 1, Clean Air and Global Climate Change, Objective 1.1, Healthier Outdoor Air. The Regional Geographic Initiatives Program enables the Regions to work with states, local governments, and others in specific geographic areas on problems identified as high priorities by the Regions. This project will work to achieve these goals through collaborative problem solving strategies to better understand available options and pursue efforts to protect public health and the environment. Specifically, this project supports air quality and EPA's community-based air toxics program.

Submitting Same Project Proposal for Another Funding Program?

No

General Criteria

Financial management systems are designed and in use to closely track funding to assure proper use of resources. Garfield County utilizes financial accounting software systems that can be specifically utilized to track planned expenses and activities related to grant projects. As the County is new to the environmental health arena, no recent projects of this type have been attempted nor have any federal funds been used by the Department. However, our principal partner, CDPHE, has extensive experience managing projects that involve EPA funds. Projects that demonstrate success include Vasquez Blvd/I-70 Community Health Program and the Rocky Mountain Arsenal Medical Monitoring Program. In the Denver Metro Area and the Grand Junction Air Toxics Monitoring Program, which is part of the National Air Toxics Trends Study. Garfield County will work closely with CDPHE to ensure Garfield County is equally successful.

Program Criteria

1. This is a new project designed to complement ongoing efforts to carry us closer to a well-designed, community-based air quality management program. Through collaborative efforts of the partners mentioned earlier, we anticipate assembling community stakeholders, armed with new or enhanced data and general knowledge of air quality issues, to establish a plan for reducing community risk from exposure to air pollution. We believe that several stakeholders and partners will be actively involved in moving this effort forward with leaders, professionals and the public.
2. Rapid energy development is not limited to Garfield County. The entire Rocky Mountain Region is facing similar issues as Garfield County. We believe that the information to be gathered through monitoring and emission inventory development aspects of this project will both motivate and greatly benefit other counties and states in the region that are facing similar development of energy reserves.
3. We firmly believe that the information gathered from this project and shared in this community through the planned education and outreach activities will be instrumental in bringing about industry operational changes and reduced emissions resulting in cleaner air and healthier people.
4. We will document projected outcomes and outputs of this project through the development of timely and well written reports at various stages, tracking of attendance at informational/educational meetings and publication of reports and educational materials for public use.

We will submit quarterly performance/progress reports to the EPA Project Officer within 30 days after each reporting period ends and a final report within 90 days after the expiration of termination of financial support in accordance with 40 CFR Part 31.40(b)(1), as applicable. The reporting period will begin with the start of the project period, which has yet to be determined; although for the purposes of establishing a reporting schedule is assumed to be September 1, 2007 (see schedule in table below). While our reports will not be extremely detailed, they will follow the standard EPA format including:

- A summary of activities that have taken place during the reporting period
 - Accomplishments and problems encountered to date
 - Comparison of the completed milestone and program schedule
 - Comparison of funds spent during the reporting period against the planned expenditures Estimates of the time and funds necessary to complete the project.
5. We anticipate extensive conceptual planning, analytical and evaluation support from project partners. Particularly important will be the role of our state partner, CDPHE. This agency will support this project through the services of air quality monitoring and modeling specialists from the Air Pollution Control Division and by evaluating the data (using nationally acceptable methods and models). Toxicologists from the CDPHE Disease Control and Environmental Epidemiology Division will also participate in this project by evaluating the data to determine health risk presented

by oil and gas development. Again, our partners will rely upon the EPA Air Toxics Risk Assessors' Library to conduct this work. With respect to using monitoring data in risk assessments, we will consult the extensive work and associated national guidance created by EPA Region IV focusing on using monitoring data in risk assessments.

We will also call upon industry partners who are members of the Energy Advisory Board to provide financial and/or in kind support for analytical and outreach activities. Likewise, the Grand Valley Citizens Alliance will likely provide support with outreach and educational activities in the community. Although not delineated in this application, we anticipate that the efforts outlined in this proposal will generate substantial interest from entities outside of Garfield County, likely resulting in various levels of support.

Quarterly Report Schedule

Assuming the project start date is September 1, 2007, we propose the quarterly reporting due dates to be as follows:

- December 1, 2007
- March 1, 2008
- June 1, 2008
- September 1, 2008

The final project report would be due no later than January 1, 2009.

Project Activity Timeline, Costs and Deliverables

| PROJECT ACTIVITY/COST | COMP. DATE | OUTPUTS | OUTCOMES |
|--|---------------|--|---|
| <p>1. <u>Short-term Targeted Air Quality Monitoring Program</u>:</p> <ul style="list-style-type: none"> • Literature review of existing data on typical emissions from well sites, gen sets, rigs. • Methodology and plan for and identifying monitor locations, number and type of stations and what to monitor³ • Monitoring station installation • Monitoring • Monitoring results evaluation and reporting | 12/07 | <ul style="list-style-type: none"> • Field work necessary for installing monitoring stations • Quality-assured ambient air monitoring data • Report assessing air monitoring data with stand-alone Executive Summary that characterizes air ambient air quality concentrations and status, trends and whether and where population exposure levels exceed acceptable levels | <p>Short Term: Enhanced basis for evaluating the current magnitude of Garfield County’s air quality situation; and a basis for characterizing it, including its current status, trends, and how and where the public is exposed to unacceptable levels; and a better overall understanding of the situation.</p> <p>Intermediate: Along with completion of tasks listed below, this additional data will used by air quality managers to establish a basis for and to encourage citizens, community leaders and industry to better understand why and to what extent air quality needs to be managed in Garfield County, given its position as “ground zero” for energy development in Colorado. It will also begin to provide people the knowledge they need to, both voluntarily and through regulation, change their behavior. In turn, this will help air quality managers and leaders gain the political support for protecting air quality and related values.</p> <p>Long Term: Protected and preserved air quality in energy rich places</p> |
| <p>2. <u>Emission Inventory Gap Filling</u></p> <ul style="list-style-type: none"> • Inventory development criteria • Inventory gaps identification • Inventory gaps filling • Updated inventory and trends evaluation, focusing on exposure by the population | 12/07 | <ul style="list-style-type: none"> • Updated and more complete emission inventory that includes all stationary energy sector sources; not just major ones. • Data base of written responses to inventory update request by energy operators | <p>Short Term: A robust emission inventory that, combined with the results of Task 1, offers air quality managers a strong baseline of information from which to establish and air quality management plan</p> <p>Intermediate: Key information for inclusion into the Citizen’s Guide (See Task 3)</p> <p>Long Term: Same as outcomes for other project activity tasks.</p> |

³Concept: To be located near populations and gather data to evaluate population exposure to emissions from oil and gas operations. Also designed to complement longer-term ongoing County-wide air quality monitoring program

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|---|--------------|--|--|
| <p><u>3. County-Wide Air Quality Issues & Opportunities Assessment Report and Communications</u></p> <ul style="list-style-type: none"> • Summary of work completed to date, analysis and recommendations • PowerPoint • Present report • Solicit and report on feedback • Develop preliminary plan for implementing recommendations | <p>10/08</p> | <p>Comprehensive report which uses results of Tasks 1 and 2 to offer a strategy for managing air quality in Garfield County.</p> <p>Completion of task will include:</p> <ul style="list-style-type: none"> • Stand-alone Executive Summary and Power Point Presentation with recommendations targeted to leaders and decision-makers • Specific strategies and best management practices for managing air quality so that NAAQS and AQRVs are protected • Meetings with Business Advisory Board, Senator Salazar, County Commissioners, and the public to discuss report findings and recommendations • Report summarizing meeting feedback • Proposed air quality protection implementation | <p>Short Term: Technically sound, thorough and publicly scrutinized materials necessary for use in building knowledge and acceptance of the need for management of air quality in Garfield County and beyond.</p> <p>Intermediate and Long Term: Same as outcomes for other project tasks.</p> |
| <p><u>4. Citizen's Guide on Air Quality Issues in Garfield County</u></p> <ul style="list-style-type: none"> • Write Guide, incorporating results of previous tasks • Hold 1 citizen meetings to solicit feedback on guide | <p>10/08</p> | <ul style="list-style-type: none"> • A general and accessible, readable and reproducible educational document to be distributed in the community, to state etc.; included schools, homeowners associations, etc | <p>Short-Term: General citizen knowledge base about air quality management, the air quality situation and what leaders hope to do about it in their community</p> <p>Intermediate: Partial basis for behavior change that lends support to regulatory and non-regulatory efforts to manage air quality, as well as individual efforts to develop energy more sustainably (i.e. with fewer emissions impacts)</p> <p>Long Term: Better air quality in Garfield county and the West due to behavior change.</p> |

Budget

| Line Item | Detailed Description | EPA funds | Match funds |
|------------------|---|---|---|
| Personnel | Project Supervisor @ \$800/wk x 30 weeks Project Manager @ \$700/wk x 60 weeks ⁴ Advisory Board @ \$300/wk x 10 weeks ⁵ Total | \$0 \$42,000 \$42,000 | \$24,000 \$3,000 \$27,000 |
| Fringe Benefits | Project Supervisor Fringe benefits at 30%. Total | \$0 | \$7,200 \$7,200 |
| Travel | Local Travel Mileage -1000 miles x \$0.36 Travel to/from Denver for partner and pertinent meetings - 2000 miles x \$0.36 Per diem for 14 days @\$40/day for 1 person Hotel for 7 nights for 1 person Total | \$0 \$720 \$160 \$800 \$1,680 | \$360 \$400 \$250 \$1,010 |
| Equipment | 5 vieflo stainless steel Summa canister flow controllers @ \$620 ea 55 Summa canister samples and speciated NMOC analysis @ \$320 ea 52 PM2.5 samples and weighing @ 20 ea Total | \$3,100 \$17,600 \$1,040 \$21,740 | \$0 \$0 |
| Supplies | Printing of 2000 Citizen Guides members @ \$3 each Printing of Miscellaneous Public Meeting/Advisory Bd Materials Total | \$6,000 \$3,000 \$9,000 | \$3,000 \$1,000 \$4,000 |

⁴ Project Manager would be day to day “point person” for this project, working closely with Project Supervisor. Skills include: strong communications, writing, facilitation and project management skills involving diverse interests. Roles would include managing project consults, writing the Citizen’s guide (Task 4), coordinating with project partners, developing PowerPoint presentation, facilitating support to contracted professional for project public meetings, coordinating input and review by project partners and EAB (see attached letter of support) of all materials developed for this project.

⁵ This would be in the form of expertise provided by members of the EAB during meetings.

| Line Item | Detailed Description | EPA funds | Match funds |
|---|--|--|--|
| Contractual ⁶ | Targeted Air Quality Monitoring Project Report Development (Task 1) Emission Inventory Project (Task 2) County-wide Assessment Report and Recommendations (Task 4) Meeting Preparation & Facilitation – for 2 public meetings | \$6,000 \$8,930 \$8,500 \$9,000 | \$5,000 \$2,000 \$5,000 \$2,000 |
| | Total | \$32,430 | \$14,000 |
| Other | Office needs (postage, phone, fax, etc.) | \$150 | \$150 |
| | Total | \$150 | \$150 |
| Total Charges | | \$107,000 | \$53,360 |
| Total amount of funds requested from EPA and match | | \$107,000 | |
| Total Cost of Project | | \$160,360 | |