

UGRB Air Quality Citizens Advisory Task Force

Agenda

February 21, 2012

5:00 – 8:00pm

Sublette County Library, Pinedale

5:00 Meeting Convenes

- | | |
|---|---|
| 1. Welcome, Purpose, & Introductions | John Corra |
| 2. Agenda Review, Process and Ground Rules | Steve Smutko/Elizabeth Spaulding |
| 3. Review of Status & Activities Related to UGRB Air Quality | Darla Potter, DEQ |

Dinner

- | | |
|---|---|
| 4. Stakeholder Assessment and Process Plan | Steve Smutko/Elizabeth Spaulding |
| 5. Charter Review and Discussion | Steve Smutko/Elizabeth Spaulding |
| 6. Next Steps | Steve Smutko/Elizabeth Spaulding |
| • Review of Summary Points | |
| • Calendar for next meetings | |
| • Meeting format & time (meals, etc.) | |

8:00 Meeting Adjourns



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**Upper Green River Air Quality Citizens Advisory Task Force
Contact Information**

John Anderson
Pinedale Citizen
143 North St
Pinedale, WY 82941
307-367-3554
andersonj@unk.edu

Joel Bousman
Commissioner
Sublette County
1346 State Highway 353 Box 74
Boulder, WY 82923
307-749-6154
eastforklive@wildblue.net

Craig Brown
Air Specialist
QEP Resources
1050 17th St, suite 500
Denver, CO 80265
303-640-4295
craig.brown@qepres.com

Kent Connelly
Commissioner
Lincoln County
925 Sage Ave
Kemmerer, WY 83101
307-877-2001
kconnelly@lcwy.org

John Corra
Director
WY Dept. of Environmental Quality
122 West 25th Street
Herschler 4W
Cheyenne, WY 82002
307-777-7937
john.corra@wyo.gov

Elaine Crumpley
Pinedale Citizen
CURED President
PO Box 1123
Pinedale, WY 82941
307-367-4542
windriverE@wyoming.com

Shane Deforest
Pinedale Field Office Manager
Bureau of Land Management
Pinedale Field Office
P.O. Box 768
Pinedale, WY 82941
307-367-5302
sdefores@blm.gov

Steve Dietrich
Air Quality Div. Director
DEQ
122 West 25th Street
Herschler 2E
Cheyenne, WY 82002
307-777-3746
steve.dietrich@wyo.gov

David Hohl
Councilman
Town of Pinedale
395 S. Jackson Ave
Pinedale, WY 82941
307-367-2078
dave_hohl@yahoo.com

Wally Johnson
Commissioner
Sweetwater County
502 Agate St
Rock Springs, WY 82901
307-382-6064
johnson2@sweet.wy.us

Thomas Johnston
County Health Officer
Sublette County
P.O. Box 1877
Pinedale, WY 82941
307-367-2408
jthomasj@centurytel.net

Carmel Kail
Pinedale Citizen
P.O. Box 684
Pinedale, WY 82941
307-367-3058
kail@wyoming.com

Stephanie Kessler
WY Program Manager
Wilderness Society
304 Main St Ste 1
Lander, WY 82520
307-332-3462
stephanie_kessler@twos.org

Cally McKee
Environmental & Regulatory Manager
Ultra Petroleum
P.O. Box 1768
Pinedale, WY
303-645-9843
cmckee@ultrapetroleum.com

Tom Monahan
Sr. Regulatory Specialist
Exxon Mobil
P.O. Box 4358
Houston, TX 77210
281-654-1113
tom.p.monahan@exxonmobil.com

Cortnie Morrell
Environmental Specialist
Williams Company
4980 State HWY 374
Green River, WY
307-872-2880
cortnie.morrell@williams.com

Bruce Pendery
Staff Attorney
Wyoming Outdoor Council
440 E 800 N
Logan, UT 84321
435-752-2111
bruce@wyomingoutdoorcouncil.org

Jeremiah Rieman
Natural Resources Policy Advisor
Office of the Governor
122 West 25th Street
Herschler 2E
Cheyenne, WY 82002
307-777-5629
jeremiah.rieman@wyo.gov

Jim Robinson
Mayor
Town of Marbleton
P.O. Box 970
Big Piney, WY 83113

Isabel Rucker
Pinedale Citizen
P. O. Box 1502
Pinedale, WY 82941
307-367-8189
isabel@isabeljewelry.com

Mike Shaffron
NRBU EHS Lead - Permitting & Compliance
Encana Oil and Gas
370 17th St, Suite 1700
Denver, CO 80202
720-876-5155
michael.shaffron@encana.com

Phillip Smith
Mayor
Town of Big Piney
2035 Milleg Ln
Big Piney, WY 83113
307-276-3554

Larry Stepp
Mayor
Town of LaBarge
P.O. Box 327
LaBarge, WY 83123
307-386-2676

Terry Svalberg
Air Quality Specialist
US Forest Service
Pinedale Ranger District
P.O. Box 220
Pinedale, WY 82941
307-367-4326
tsvalberg@fs.fed.us

Hank Williams
Pinedale Citizen
5 Percussion Lane
Pinedale, WY 82941
307-367-2899
gannettpeak@hotmail.com

Angela Zivkovich
Sr. Environmental Engineer
Shell Energy
4582 South Ulster Street, Suite 1400
Denver, CO
303-222-6360
angela.zivkovich@shell.com

UPPER GREEN RIVER BASIN AIR QUALITY CITIZENS ADVISORY TASK FORCE

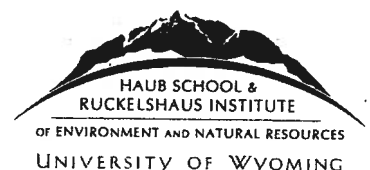
SITUATION ASSESSMENT AND PROCESS RECOMMENDATIONS

February 21, 2012

Prepared by

**The Ruckelshaus Institute of Environment and Natural Resources
The University of Wyoming**

For further information contact
The Ruckelshaus Institute for Environment and Natural Resources
804 E. Fremont Street
Laramie, WY 82072
(307)766-5080
www.uwyo.edu/enr/ienr



Upper Green River Basin Air Quality Citizens Advisory Task Force Situation Assessment and Process Recommendations

Background and Purpose

The Wyoming Department of Environmental Quality (WDEQ) recognizes that ozone levels in Sublette County are elevated and has recommended to the Environmental Protection Agency an "Ozone Nonattainment Area" in Sublette County. This designation requires federally mandated actions be taken.

During episodic winter ozone conditions, ozone levels are reported to be high enough to pose potential risks to human health. Along with efforts to reduce emissions, measures have been taken to increase and improve monitoring, research and public information. The WDEQ is continuing to work on plans to lower ozone precursor levels, as well as engage the public on solving critical air quality issues.

WDEQ has a number of regulatory, technical and voluntary efforts underway to work toward a resolution on ozone issues. There still remains a gap: citizen efforts to recommend creative and innovative solutions for reducing ozone levels in the Upper Green River Basin. Thus the WDEQ is convening a task force that includes local citizens, industry representatives, environmental conservation organizations, and local, state, and federal government.

The purpose of the task force is to advise and recommend to WDEQ approaches for resolving air quality issues and increase public engagement in the proposed Ozone Nonattainment Area of Sublette County and parts of Sweetwater and Lincoln counties. The task force will also conduct a coordinated review of WDEQ proposed initiatives. Lastly, the task force will assist in improving communication channels between the public and WDEQ.

Prior to convening the task force, the Ruckelshaus Institute at the University of Wyoming interviewed potential task force members. The purpose of the interviews was to assess the priorities and expectations, information needs, and logistical needs and constraints of the potential members and determine their willingness to serve on the task force. In addition to helping us structure the task force, Institute staff will use this information to design meeting formats and deliberative processes that are appropriate and effective, and meet the needs and expectations of task force members and WDEQ.

Interviews were conducted with 20 potential task force participants identified as being interested or involved in air quality issues in the Upper Green River Basin area. Not all potential task force members could be reached for interviews. The

potential participants we interviewed included individuals from local communities, industry, municipal and county government, state and federal agencies, the Wyoming Governor's office, and environmental conservation organizations. During the course of each interview, participants were asked a number of questions ranging from their involvement in air quality issues, their views on what the most pressing issues needing addressed are, and their ideas on what potential solutions and barriers exist.

Stakeholders Interviewed

John Anderson, Pinedale Citizen
Craig Brown, QEP Resources
Kent Connelly, Lincoln County Commissioner
Elaine Crumpley, Pinedale Citizen
Shane Deforest, Bureau of Land Management
David Hohl, Pinedale Councilman
Wally Johnson, Sweetwater County Commissioner
Thomas Johnston, Sublette County Health Officer
Carmel Kail, Pinedale Citizen
Stephanie Kessler, The Wilderness Society
Cally McKee, Ultra Petroleum
Tom Monahan, Exxon Mobil
Cortnie Morrell, Williams Company
Bruce Pendery, Wyoming Outdoor Council
Jeremiah Rieman, Office of the Governor
Isabel Rucker, Pinedale Citizen
Mike Shaffron, EnCana Oil and Gas
Terry Svalberg, United States Forest Service
Hank Williams, Pinedale Citizen
Angela Zivkovich, Shell Energy

Findings and Analysis

The following is a summation of the concerns and ideas of the interviewees, including their varying perspectives on collaborative processes and the desired outcomes of the task force.

Air Quality Issues

When asked about the issues pertaining to air quality that are most important to them, a majority of participants stated the elevated ozone levels and their impact on

public health as their primary concern. Many participants had questions and concerns about sources and amounts of ozone precursors. Impacts to class I and class II wilderness areas, particularly from regional haze, were also a prominent concern for many. Several participants are very concerned with the impacts that modified regulations may have on industry's ability to continue to operate in the region. Subsidiary concerns included the impact that energy development has had on the local communities in general.

Solutions to Air Quality Issues

Proposed solutions to the ozone issue were quite varied and ranged from reducing the pace and amount of energy development in the region to encouraging residents of the area to modify individual behaviors that could reduce their emissions. For example, one recommendation was that residents fill their gas tanks in the morning and refrain from idling their vehicles on high ozone days. Many participants mentioned that they would like to see existing regulations be better enforced, while others stated that regulations need to be modified to improve oversight of emissions. The majority of participants believe that more research needs to be done in order to gain a more thorough understanding of what causes this rare winter ozone problem. Existing information also needs to be better disseminated to all stakeholders. Opening and improving channels of communication among government agencies, industry, and the public was an often repeated suggestion. Several participants expressed that improved monitoring of facilities and implementation of best available technology on the rigs could also greatly reduce emissions.

Barriers to Solving Air Quality Issues

A lack of scientific understanding of the causes of high ozone days and a lack of resources to improve and increase necessary research were identified by a resounding number of participants as the most significant barriers to improving air quality. Some individuals expressed a level of distrust among entities involved in air quality issues in the region. Several participants have a perception that politics and bureaucracy are playing a large and negative role in the creation and enforcement of the regulatory scheme. Strong beliefs about other constituencies' motives were also voiced. Another large hurdle recognized by most is the economic dependence of the counties, and Wyoming as a whole, on energy development. While emission reduction is important, many do not want regulations to stifle industry so much that it cannot continue to operate in the region.

Resources Available

Available resources identified for addressing air quality issues were primarily those that the participants could provide – constituencies' expertise on relevant subject matter, education and outreach opportunities with the public, and personal

investments in preserving the health and environment of the community. Other resources identified included results from ongoing studies, evolving technology, industry and state funding, and experience drawn from other projects. However, while a number of resources were indeed identified, many participants were pessimistic that new resources (funding, personnel, etc.) would be made available in sufficient amounts to really affect the problem.

Barriers to Collaboration on Air Quality Issues

Barriers to collaboration mirrored many of the same barriers identified for solving air quality issues in general. Economic dependence of the community on energy development, both through employment opportunities and tax revenues, was seen as a significant barrier to true collaboration. Many felt that individuals who worked in the oil fields would be reticent to participate on air quality issues for fear of jeopardizing their jobs. There was also a concern that overly stringent regulations would prevent industry from continuing to develop, thus limiting tax revenues coming into counties. Deeply rooted opinions and position-taking was another repeatedly identified barrier. Distrust of other's motives, lack of public understanding of the issues, and pre-existing frustration about how the situation has been dealt with thus far were all listed. Governance barriers were also identified, such as the difficulty in reconciling national public land management agendas with local land use agendas, and the struggle to sustainably meet the objectives of the National Energy Policy Act to reduce the nation's dependence on foreign oil.

How Barriers to Collaboration can be Overcome

Dialogue between stakeholders, relationship building, and public education were repeatedly stated as necessary tools for overcoming the aforementioned barriers to collaboration. Continued research on emission sources and ozone levels is seen as crucial for supporting the education and outreach that many believe is necessary. Many participants believe that full consensus may be hard to achieve, but that compromise and modified, realistic expectations will allow for progress nonetheless. While a long list of potential barriers was generated, there was still a fair amount of optimism that this task force would be able to achieve progress toward improved air quality.

Desired Outcomes of the Task Force

When asked what they would consider to be a successful outcome from the task force, participants stated that a more informed public, stakeholder cohesion, and creation of shared goals would be ideal. Others want more concrete outcomes, such as a State Implementation Plan that lowers emissions 30- 60 percent. Many participants would like to see the use of improved technology on the rigs that could

significantly reduce emissions while still allowing for a steady revenue stream into the county. Several participants expressed hope that the ideas and recommendations of the local citizens be acknowledged and implemented.

Technical Information Needs

Many participants requested more information on WDEQ's air monitoring plan, as well as an explanation of what the data indicate about sources and amounts of ozone precursors. Participants also wanted a concise description of how gas development occurs, including an explanation of the various emission point sources and what types of technology are used versus currently available. Other requests included a cost index, an explanation of the intricacies of the offsets, the contingency plans being considered, and the role of emission sources other than gas production in ozone nonattainment.

Other Information Needs

Other information requests included:

- Record of Decision for the Jonah and PAPA fields
- Status and details of the State Implementation Plan development
- Number of rigs currently operating on the anticline
- Background on when and where ozone readings began
- Wind direction and timing
- Revenue streams and financial drivers
- Overview of the media coverage on the issue
- WDEQ's expectations
- What the follow-up process and procedures are going to entail
- Emission control strategies and techniques

Information Participants can Offer the Process

In general, participants stated that the main information they could provide the task force was their constituency's perspective and experience, be that of the public, industry, environmental conservationists, etc. Many who have been intimately involved in air quality issues for some time stated they could provide historical background and a technical understanding of the issues. Several individuals offered up legal and regulatory understanding, while others offered up their analytical and reasoning skills.

Recommendations

Based on information gained from the interviews, the Ruckelshaus Institute recommends the following actions be taken by the task force:

- 1) **Engage in Joint Fact Finding.** The task force should embark on a joint fact finding mission that examines the scientific information available on ozone in the Upper Green River Basin area. The task force shall determine the data and information they will use as the basis of their recommendations, as well as the information that they will communicate to their constituency groups. The fact finding process will allow the task force to define the information they need, where they will get it, when they need it, and what they will do with it.

To facilitate the joint fact finding effort, the Ruckelshaus Institute will assemble a draft "findings document" that brings together existing data and information in a conceptual framework that both describes what is known about the problem as well as what remains uncertain. The draft document will be the initial point of departure for the fact finding effort, and the task force will change and add to the document as needed.

- 2) **Formulate a Problem-Solving Process.** The task force should engage in an effective problem-solving process that:
 - a. Focuses on what's important.
 - b. Is logical and consistent.
 - c. Acknowledges both subjective and objective factors and blends analytical with intuitive thinking.
 - d. Requires only as much information and analysis as is necessary to resolve a particular problem.
 - e. Encourages and guides the gathering of relevant information and informed opinion.
 - f. Is straight-forward, reliable, and flexible.

The Ruckelshaus Institute will design a process to assist the task force to carry out the following steps:

- a. Identify and agree on the problem(s) to be solved;
- b. Specify task force members' interests and the group's objectives;
- c. Create imaginative alternatives for resolving the problems
- d. Understand the consequences of selecting any and all alternatives;
- e. Evaluate trade offs;

- f. Clarify uncertainties and tolerance of risk (e.g., making choices without full information).
-
- 3) **Improve Communication and Trust.** To enable a collaborative process to work, task force members must be able to engage in full, open, truthful communication, and trust that their fellow task force members will act in good faith as they wrestle with tough, critical problems. The Ruckelshaus Institute will facilitate open and balanced participation among task force members, and seek opportunities for informal exchange where participants can get to know one another.
 - 4) **Generate Creative Ideas.** The task force should engage in activities and dialogue that will engender new and innovative ideas on how to address air quality issues in the Upper Green River Basin. The Ruckelshaus Institute will facilitate this activity by helping the task force to challenge constraints, set high aspirations, learn from others, and use the groups' objectives as the basis for a search for good alternatives.
 - 5) **Communicate with Constituents.** A process for communicating science and task force developments with constituency groups should be developed in order to achieve the public outreach and education objectives voiced in the charter. Opening multi-directional channels of communication in order to receive constituent ideas and concerns will also be important. The Ruckelshaus Institute will facilitate constituent communication by structuring open meetings, providing easy access to task force information, and establishing an expectation of communication. For example, task force meetings may begin with a discussion of the communication activities they engaged in since the last meeting, and end with talking points that task force members can use in communicating information going forward. The task force may also decide to initiate community information and dialogue sessions as one of its functions.

Upper Green River Basin Air Quality Task Force Group Charter

Draft 2.0

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Upper Green River Basin Air Quality Citizen Advisory Task Force Group Charter

Draft 2.0

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1. BACKGROUND AND PROJECT DESCRIPTION

The Wyoming Department of Environmental Quality (WDEQ) recognizes that ozone levels in Sublette County are elevated and has recommended to the Environmental Protection Agency an "Ozone Nonattainment Area" in Sublette County. This designation requires federally mandated actions be taken.

During episodic winter ozone conditions, ozone levels are reported to be high enough to pose potential risks to human health. Along with efforts to reduce emissions, measures have been taken to increase and improve monitoring, research and public information. The WDEQ is continuing to work on plans to lower ozone precursors levels, as well as engage the public on solving critical air quality issues.

WDEQ has a number of regulatory, technical and voluntary efforts underway to work to a resolution of ozone issues. There still remains a gap: citizen efforts to recommend creative and innovative solutions for reducing ozone levels in the Upper Green River Basin.

2. PURPOSE

The purpose of the Upper Green River Basin Air Quality Citizen Advisory Task Force is to consider and advise on potential solutions to reduce ozone. It will accomplish this through mutual education; increasing transparency in process; fostering communication among citizens, the WDEQ, other governmental agencies and other stakeholders; and coordinating information between governmental agencies.

3. AUTHORITY OF THE TASK FORCE

The Task Force is an advisory group convened by WDEQ that reports its recommendations to the WDEQ. Recommendations generated by the Task Force will be considered and may be accepted in whole, in part, or rejected at the discretion of the WDEQ. The Task Force may elect to pursue issues through other efforts that fall outside of the scope of the WDEQ's authority.

4. PRODUCTS AND OUTCOMES

Together with recommendations for reducing ozone levels, the Task Force will generate:

- Periodic reports of issues discussed by the Task Force and recommendations it has considered;
- Initiatives undertaken to enhance education and awareness of the issues;
- An annual budget for education and outreach;
- A roadmap for information dissemination (to achieve transparency);
- Information, disseminated through multiple media and technology, on concurrent efforts by the Task Force and other organizations to address the ozone issue.

5. GEOGRAPHIC AREA

This effort will be limited to developing recommendations for resolving ozone issues in the proposed Ozone Nonattainment Area of Sublette County and parts of Lincoln and Sweetwater counties in the Upper Green River Basin as defined by WDEQ.

6. TASK FORCE MEMBERSHIP AND REPRESENTATION

The Task Force is representative of persons with interests in air quality in the proposed Ozone Nonattainment Area. Although it is recognized that Task Force members have multiple interests and may participate in discussions from various perspectives, Task Force members broadly represent the following organizations and interest groups:

- Municipal Governments (4)
- County Governments (3)
- WDEQ
- BLM
- Governor's Office
- US Forest Service
- Public Health
- Oil & Gas Industry (6)
- Citizens (6)
- Environmental NGOs (2)

Task Force Members will be expected to represent the interests of (1) themselves, (2) organizations that have authorized the Group Member to represent them, or (3) groups of constituents from a similar interest group. Ideas presented within Task Force discussions will not be assumed to be the

official position of the organizations or groups represented unless specifically stated to be so. Task Force Members have the responsibility to keep the organizations and interest groups they represent informed about the actions and outcomes of the Group's process.

Each organization and interest group is represented by one or more Primary Group Members. In the event that a Primary Group Member cannot attend a meeting, he/she may be represented by an Alternate Group Member of his/her choosing without concurrence of the Task Force. Alternate Group Members are encouraged to attend Task Force meetings along with the Primary Group Members, but should be fully briefed by the Primary Group Member before attending any meetings as the sole representative.

Members are appointed by the WDEQ Director. Term of membership on the Task Force will be two years, with the option for reappointment. Reappointments will be made by the WDEQ Director. Service on the Task Force by any group member will be at the discretion of the member's constituent organization or interest group.

7. RESPONSIBILITIES OF THE TASK FORCE

a) Conduct of Task Force Members

Task Force members will engage in open communication at the meetings. This means disclosing interests, needs, actions, and issues in a timely manner and committing to the goals of the Task Force. The primary responsibility of the Task Force is to balance the interests related to air quality across the Upper Green River Basin in providing advice and recommendations to the WDEQ. Task Force members will endeavor in good faith to develop recommendations that are satisfactory to all Task Force members. Task Force members will ensure that an integrated approach is taken in formulating recommendations by meeting together as needed to assure strong communication and collaboration among Task Force members.

b) Keeping Constituents Informed

Task Force Members will engage in active communication with with constituents about actions and outcomes of the Task Force. Active communication can include written, verbal, and electronic means of communicating. Members will have meeting summaries available to them for keeping constituents informed.

c) Representing Constituents

In developing recommendations, Task Force members will consider the interests of other group members as well as their own particular interest

group when reviewing issues and recommendations. Group members will invite proposals from their constituents to present to the Task Force and will provide proposals from the Task Force to their constituents for feedback and input.

d) Attending Meetings

Each Task Force member is expected to attend and fully participate in each meeting, which includes being present for substantially all of the meeting. Group members shall read appropriate materials and arrive prepared to work. Materials presented for discussion should be distributed at least one week in advance of the meeting or longer, as is practical.

In the event that neither the Primary Task Force member nor the Alternate Task Force member is able to attend a meeting of the Task Force, and the Primary Task Force member is not in agreement with any actions taken by the Task Force during his/her absence, that Member has until the meeting summary review at the next meeting to register his/her dissatisfaction with actions taken. A reasonable amount of time will be devoted to old business at meetings. Email may be used to expedite this process.

e) Understanding and Abiding by the Charter

Task Force members are expected to read, fully understand, and conduct themselves in accordance with the requirements of this charter.

8. RESPONSIBILITIES OF THE FACILITATOR

The Task Force will be facilitated by faculty and staff of the Ruckelshaus Institute at the University of Wyoming. The roles and responsibilities of the Facilitators include:

- Facilitating meetings in a manner consistent with interest-based negotiations and this charter;
- Handling meeting logistics;
- Keeping meeting attendance records of all Task Force members;
- Helping the Task Force stay on task and on process;
- Protecting Task Force members and their ideas from attack while ensuring that provocative issues are not avoided, but are discussed in a candid and respectful manner;
- Helping Task Force members to concisely describe their interests;
- Helping Task Force members find innovative and workable solutions;

- Helping Task Force members reach consensus;
- Providing for equitable participation by all Task Force members;
- Working, both at and between meetings, with Task Force members to assist in the free exchange of ideas between the Members and to resolve any impasses that may arise;
- Periodically surveying a sampling of Task Force members to assess fairness, meaningfulness and efficiency of the process;
- Maintaining a list of significant topics on which the Task Force(s) have reached consensus or have failed to reach consensus.

9. DECISION PROCESS

The Task Force will operate by consensus of all members represented at the meeting. Consensus is the decision rule that allows collaborative problem solving to work. It is a way for more than two people to reach agreement. Consensus prevents domination by the majority, allows building of trust and the sharing of information, especially under conditions of conflict. Consensus does not mean that everyone will be equally happy with the decision, but all do accept that the decision is the best that can be made at the time with the people involved.

Consensus requires sharing information, which leads to mutual education, which provides the basis for crafting workable and acceptable alternatives. Consensus promotes joint thinking of a diverse group and leads to creative solutions. Also, because parties participate in the deliberation, they understand the reasoning behind the recommendations and are willing to support them.

In making decisions, each Task Force member will indicate his/her concurrence on a specific proposal using a six-point scale. The scale allows Task Force members to clearly communicate their intentions, assess the degree of agreement that exists, and register their dissatisfaction without holding up the rest of the Task Force. The six-point scale is as follows:

1. Endorsement –Member likes it.
2. Endorsement with Minor Point of Contention – Basically, member likes it).
3. Agreement with Minor Reservations – Member can live with it.
4. Stand aside with major reservations – Formal disagreement, but will not block the proposal/provision
5. Block – Member will not support the proposal.
6. Indecision – Member cannot make a decision without more information.

Facilitators will measure the Task Force's consensus on a given proposal by open polling of the members present. The levels of consensus are:

- Consensus - All Task Force members present rate the proposal as a 1, 2 or 3.
- Consensus with Major Reservations – All Task Force members present rate the proposal as a 1, 2 or 3, except at least one Task Force member rates it as a 4.
- No Consensus - Any Task Force member present rates the proposal as a 5.

10. GROUND RULES FOR INTERACTION

In order to have the most efficient and effective process possible, Task Force members will follow these basic ground rules:

Discussion Ground Rules During the Meetings

- Raise hand to be recognized by the Facilitator.
- Speak one at a time in meetings as recognized by the Facilitator. Everyone will participate, but none will dominate.
- Be concise and stick to the topics on the meeting agenda. Honor a two-minute time limit for statements and responses unless the Facilitator allows more time.
- Speak only on one topic per entry (no laundry lists).
- Speak to the whole group when talking.
- Avoid side conversations.
- Avoid off-topic questions.
- Treat each other, the organizations represented in the Task Force, and the Task Force itself with respect at all times.
- Refrain from interrupting.
- Monitor your own participation – everyone should participate, but none should dominate.
- Adhere to the agenda and time schedule with diligence.
- Put cell phones on “vibrate” and leave the room when a call is received.
- Be prepared to start on time.
- Recognize that everyone's interests are important.
- Avoid repetitiveness (i.e., one-track-mind behavior).

- Agree that it is okay to disagree, and disagree without being disagreeable.
- Avoid “cheap shots” and/or sarcasm.
- Refrain from hostility and antagonism.
- Leave personal agendas and “baggage” at the door; put personal differences aside in the interest of a successful Task Force.
- Focus on the problem, not the person.

Process Ground Rules Throughout the Stakeholder Process

- Adhere to the charter.
- Review information and stay informed.
- Work as team players and share all relevant information. Ask if they do not understand.
- Encourage free thinking. Offer mutually beneficial solutions.
- Encourage candid, frank discussions. Be honest and tactful. Avoid surprises.
- Openly express any disagreement or concern with all other Task Force members. Focus on the problem, not the person.
- Actively strive to see the other points of view.
- Follow through on commitments.
- Share information discussed in the meeting with the organizations / constituents represented and bring back to the Task Force the opinions and actions of their constituencies as appropriate.
- Communicate the requirements of this charter with the organizations they represent to minimize the possibility of actions contrary to the charter.
- Commit to issues in which they have an interest.
- Support and actively engage in the Task Forces’ decision process.

11. PUBLIC PARTICIPATION AT GROUP MEETINGS

All Task Force meetings are open to observation by the public. Members of the public attending the meetings may comment at transitions between agenda items at each Task Force meeting. Speakers will have time limits set by the Facilitators to allow as much participation as possible within the allotted time. The Task Force will not normally attempt to respond to public or media comments or questions at the

meeting in which they were made. The Facilitators have the right to deny the floor to public speakers who are simply repeating previously delivered messages or who are unruly.

Final summaries of Task Force meetings will be available to the public upon request and will also be available on the DEQ website.

12. SCHEDULE AND DURATION

The Task Force will meet periodically at times and locations of their choosing. The intent of the Task Force is to provide ongoing advice and recommendations to the WDEQ. At the end of each year, the Task Force and the WDEQ will decide whether to continue on for the following year, based on need and performance of the group.

13. AMENDMENTS TO THE CHARTER

Changes to the charter can be made at any meeting of the Task Force by consensus.



Suggested Ground Rules

- Treat each other, the organizations represented, and the other participants with respect
- Recognize that everyone's interests are important
- Participate fully - speak up, say what's on your mind
- Listen attentively
- Seek inclusive solutions

Upper Green River Basin Ozone

UGRB Air Quality Citizen Advisory Task Force
February 21, 2012 Meeting

Darla J. Potter, WDEQ-AQD

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Outline



- ♦ What we know about ground level ozone
- ♦ What we have been doing
- ♦ Winter 2012 (January – March)
- ♦ What the future holds

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What we know about ground level ozone



What is Ground Level Ozone



- ♦ A secondary pollutant formed by complex photochemical reactions between nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight
- ♦ Ozone affects the lungs and respiratory system
 - Reduce lung function
 - Inflammation and damage cells that line the lungs
 - Make the lungs more susceptible to infection
 - Aggravate asthma conditions and other lung diseases
 - Repeated exposure can have permanent effects
- ♦ National Ambient Air Quality Standard (NAAQS) Ozone
 - 0.075 ppm (75 ppb)
 - 3-year average of the 4th highest daily 8-hour averaged ozone concentration

Ozone: Traditional Thinking

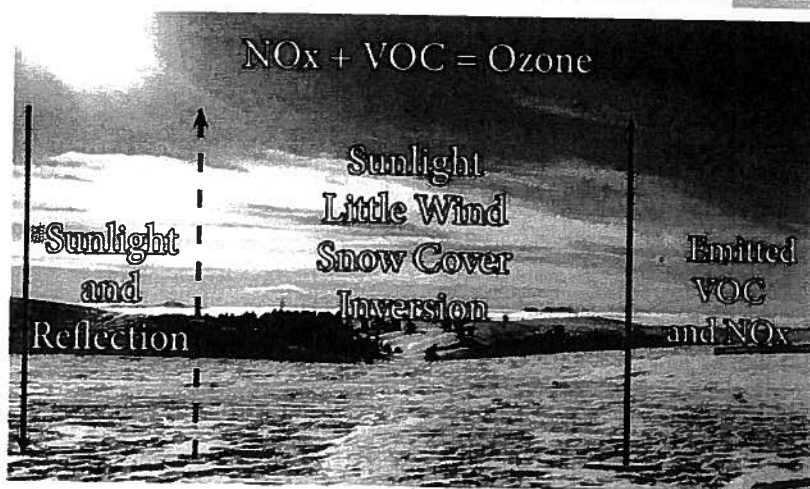


- ♦ Sunlight and hot weather cause ground-level ozone to form in the air.
 - Summertime air pollutant
 - Urban areas
 - Rural areas
- ♦ Historically, scientists believed ozone could not be formed in low temperatures or areas with low sun angles (i.e., winter)



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Ozone: Wintertime Phenomenon



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Sublette County Ozone & Weather History (2005 – 2011)



- ♦ Mid-January – March 2005
 - 8 Elevated 8-Hour O₃ Days > 75 ppb
- ♦ Mid-January – March 2006
 - 2 Elevated 8-Hour O₃ Days > 75 ppb
- ♦ Mid-January – March 2007
 - 0 Elevated 8-Hour O₃ Days > 75 ppb
 - Meteorological conditions not conducive to formation of elevated ozone levels.
- ♦ Mid-January – March 2008
 - 14 Elevated 8-Hour O₃ Days > 75 ppb
 - Higher magnitude than previous years
 - Met. conditions conducive to formation of elevated ozone levels.
- ♦ Mid-January – March 2009
 - 0 Elevated 8-Hour O₃ Days > 75 ppb
 - Limited met. conditions conducive to formation of elevated ozone levels.
- ♦ Mid-January – March 2010
 - 0 Elevated 8-Hour O₃ Days > 75 ppb
 - Met. conditions not conducive to formation of elevated ozone levels.
- ♦ Mid-January – March 2011
 - 13 Elevated 8-Hour O₃ Days > 75 ppb
 - Higher magnitude than previous years
 - Met. conditions conducive to formation of elevated ozone levels.

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What we have been doing



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Definition of the Proposed Nonattainment Boundary



♦ Key Meteorological Issues

- Local meteorological conditions are the single most important factor contributing to the formation of ozone and the definition of the nonattainment boundary.
- Trajectory analyses using detailed observation-based wind field data show that local scale transport of ozone and ozone precursors is dominant during periods of elevated ozone.
- Trajectory analyses using the wind field data show that regional transport of ozone and ozone precursors appears to be insignificant during periods of elevated ozone.

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Trajectory Analyses

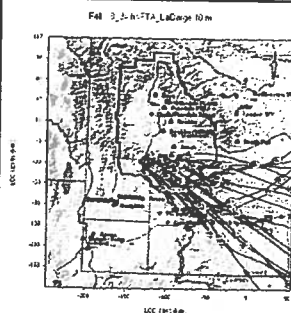


Figure S.7-18. 24-hour forward trajectory analysis at LaBarge, Wyoming on Feb. 18, 2008.

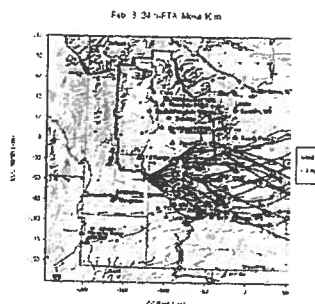


Figure S.7-19. 24-hour forward trajectory analysis in the Moxa Arch area on Feb. 18, 2008.

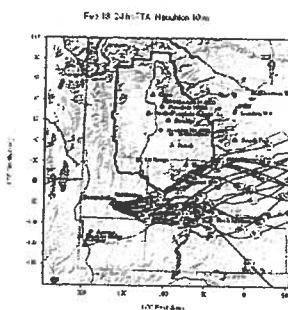
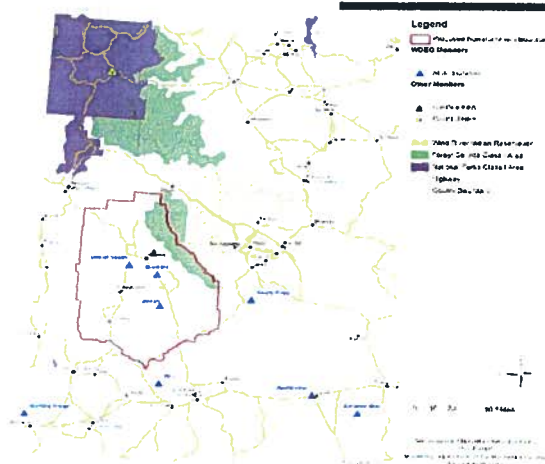


Figure S.7-20. 24-hour forward trajectory analysis at Naughton power plant on Feb. 18, 2008.

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Proposed Ozone Nonattainment Area



- Sublette County and Portions of Lincoln and Sweetwater Counties
- March 2009 Ozone NAA Recommendation
 - March 2009 Technical Support Document
 - May & August 2009 Additional Tech. Support Documentation
- 120 Day Letter – December 9, 2011
- Final Designation – anticipated May 31, 2012

Regardless of the Federal process, we have been taking action

Accomplished & Underway

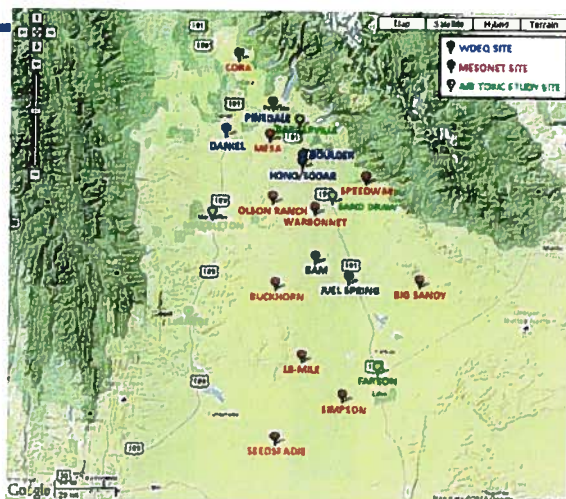


- ◆ **WDEQ Collaboration & Research**
 - Collect the appropriate scientific data via collaboration and research
 - Amount of VOCs and NO_x produced and monitored
 - Where and when the VOCs and NO_x are produced
 - Weather data unique to the Upper Green River Basin
 - Use scientific data and develop models to reproduce actual ozone formation, in order to design focused reduction strategies.

2010 Monitoring Sites



- Ambient monitoring sites
 - Permanent Sites: Juel Springs, Boulder, Pinedale, Daniel South
 - Temporary Site: BAM Trailer
 - HONO/SODAR (adjacent to Boulder)
- Mesonet sites
 - Winds, temperature and ozone
- Sublette County Human Health Risk Study
 - Ozone and Winds



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Accomplished & Underway

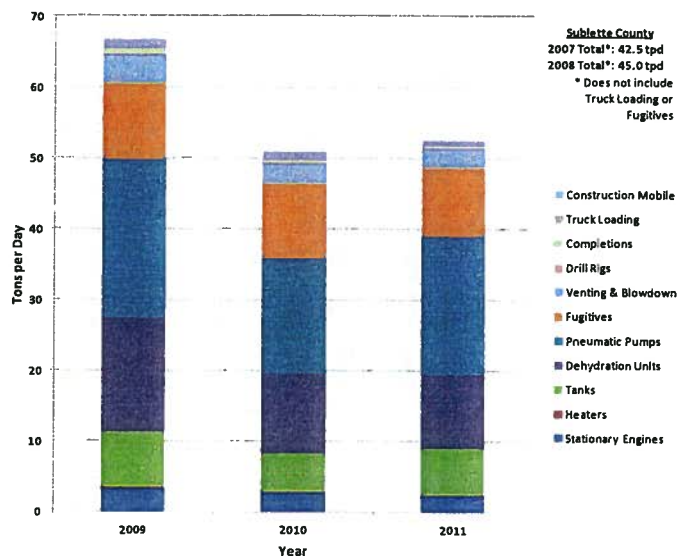


- ♦ WDEQ & Industry Efforts
 - Policies to reduce and bank precursor emissions
 - Voluntary emissions reductions
 - Consultation with EPA regarding early reductions
 - Contingency Plans
 - Technology transfer
 - Outreach

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Emissions of Volatile Organics

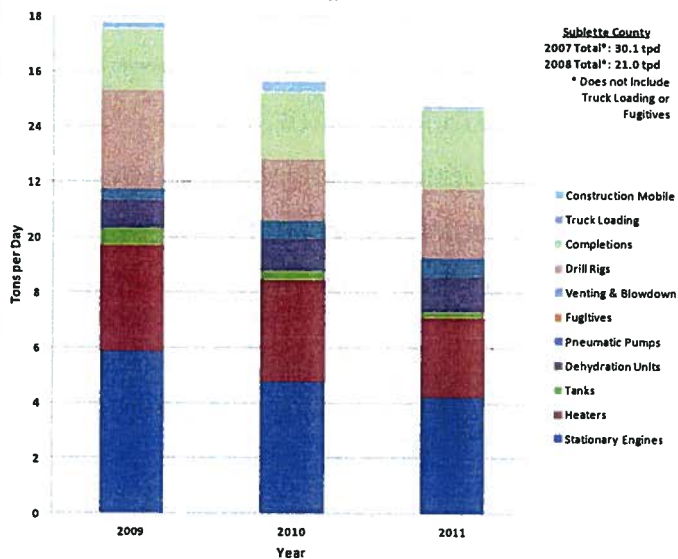
Proposed Ozone Nonattainment Area Winter Inventory Daily VOC Emissions



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Emissions of Nitrogen Oxides

Proposed Ozone Nonattainment Area Winter Inventory Daily NO_x Emissions



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Winter 2012 January - March



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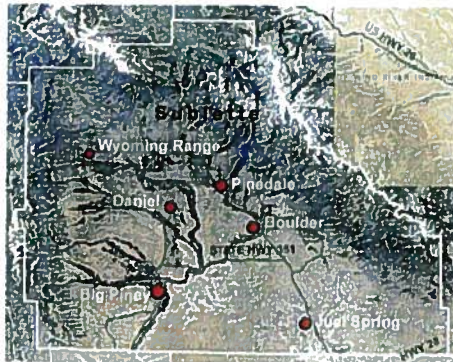
Winter 2012



- ♦ Winter Ozone Forecasting
 - Daily weather forecasts (January 3 – March 30)
 - Winter Ozone Updates (current and next day)
 - Ozone Action Days (issued 24-hours in advance)
- ♦ Ozone Contingency Plans
 - Short-term emission reduction actions implemented with 24-hour advance notice
 - Implement on Ozone Action Days (0 days as of February 20)
- ♦ Pinedale Compliance Staff
 - Ongoing inspections
 - Field presence on Ozone Action Days

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Ambient Monitoring



♦ Long Term AQD Stations

- Ozone and other criteria pollutants; Meteorology
- Use to determine compliance with National Ambient Air Quality Standards (NAAQS)
- www.wyvisnet.com
- **Preliminary Ozone Data**
 - January 1 – February 20, 2012
 - 8-hour daily max
0 days > 75 ppb (NAAQS)
 - 1-hour daily max
7 days > 60 ppb < 70 ppb
3 days > 70 ppb < 75 ppb

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What the future holds



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Ozone Nonattainment Planning



- ♦ Classification Rule – Proposed Feb. 7, 2012
 - “Percent-above-the-standard” approach
 - Marginal – Ozone 76 up to 86 ppb – attainment date 3 years
- ♦ Classification Rule Final – Spring/Summer 2012
- ♦ Implementation Rule Proposal – Spring/Summer 2012
 - EPA intends to propose a rule that is simple and straight forward
- ♦ Implementation Rule Final – End of 2012

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Other Ozone-Related Actions



- ♦ Ozone Monitoring Rule – Proposed July 2009
 - Minimum monitoring requirements
 - Ozone monitoring seasons
- ♦ Ozone Advance – Draft Released Feb. 9, 2012
 - Option created by EPA to allow states to take credit for early reductions of ozone forming pollutants
 - Early reductions will be counted towards overall goal of reducing emissions in nonattainment area
- ♦ Next Ozone National Ambient Air Quality (NAAQS) Review (already underway)
 - Proposal – October 2013, Final – July 2014

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Nonattainment – What this means for citizens



- ♦ Establishes clear timelines for getting back into attainment
 - Marginal – 2015
- ♦ Increased federal oversight for a long time
- ♦ Nonattainment New Source Review will apply for major sources
- ♦ Transport demonstration

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Obstacles & Opportunities



- | | |
|--|---|
| <ul style="list-style-type: none"> ♦ Obstacles <ul style="list-style-type: none"> ▪ Weather ▪ EPA tool box focuses on power plants and mobile sources ▪ No established models ▪ Pace of development ▪ High background ozone levels everywhere in the West | <ul style="list-style-type: none"> ♦ Opportunities <ul style="list-style-type: none"> ▪ Time to bring ozone under control through marginal classification ▪ Energy companies are motivated to assist in solving the problem ▪ Ozone Advance ▪ EPA is now working on a similar winter time problem in Utah |
|--|---|

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Key Webpages



- ♦ Daily Winter Ozone Updates
 - <http://winterozone.org>
 - 1-888-996-9337
 - Email Service winterozone@ewyoming.gov
- ♦ Information on the health effects of ozone
 - <http://www.health.wyo.gov>
- ♦ Current information on monitored ozone
 - <http://www.wyvisnet.com>