



## MINUTES

Friday, June 1, 2012

### **RAQC MEMBERS PRESENT:**

Andy Spielman, *Chairman, Hogan Lovells*  
Steve Hogan, *City of Aurora*  
Doug Linkhart, *Denver Department of Environmental Health*  
Ben Manvel, *City of Fort Collins*  
Jackie Millet, *City of Long Tree*  
Paul Natale, *City of Commerce City*  
John Putnam, *Kaplan, Kirsch, & Rockwell, LLP*  
Jep Seman, *Corporate Advocates*  
Skip Spensley, *Environmental Consultant*  
David Stewart, *EnCana Oil & Gas (USA)*  
Will Toor, *Boulder County*  
Elena Wilken, *Colorado Association of Transit Agencies*  
Tracy Winfree, *City of Boulder*

### **RAQC MEMBERS NOT PRESENT:**

Reeves Brown, *Colorado Department of Local Affairs*  
Melissa Chalona, *CTL|Thompson Inc.*  
Eric Doering, *Town of Frederick*  
Rick Garcia, *Department of Urban Housing and Development (advisory)*  
Darryl Jones, *Coventry Development*  
Elise Jones, *Colorado Environmental Coalition*  
Bob Murphy, *City of Lakewood*  
Jennifer Schaufele, *Denver Regional Council of Governments*

### **RAQC ALTERNATES PRESENT:**

Debra Perkins-Smith, *Colorado Department of Transportation*  
Martha Rudolph, *Colorado Department of Public Health and Environment*  
Bill Van Meter, *Regional Transportation District*

### **RAQC STAFF PRESENT:**

Ken Lloyd, Meg Alderton, Lauren Beliles, Jerry Dilley, Misty Howell, Steve McCannon, Kate Riegle and Anne Ritter.

### **OTHERS PRESENT:**

Cindy Allen, Anadarko Petroleum; Will Allison, APCD; Parry Burnap, Denver B-Cycle; Kris Bohling, Wagner Equipment; Andrew Casper, COGA; Stan Dempsy, Colorado Petroleum Association; Dr. Gregory Frost, Chemical Sciences Division, NOAA; Dr. Jessica Gilman, Chemical Sciences Division, NOAA; Scott Jackson, EPA Region 8; Tim Jackson, Clear the Air Foundation; Garry Kaufmann, APCD; David Kelly, UC Denver; Mike King, Department of Natural Resources; Brian Lockard, Noble Energy; Shea Luper, Encana Oil & Gas; Chris Martinez, Noble Energy; Dr. Lisa McKenzie, School of Public Health, University of Colorado; Lee Payne, Clear the Air Foundation; Gordon Pierce, APCD; Mike Silverstein, AQCC; Dennis Smith, TMSS Inc.; Rose Waldman; Mathew Wasserburger, City of Aurora; and Bob Yuhnke, SWEEP.

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The meeting was called to order at 9:37 a.m. by Chairman Andy Spielman. A quorum was present. Andy welcomed Aurora Mayor Paul Hogan to the Council.

### **Approval of Agenda**

**Paul Natale moved to approve the agenda. Seconded by Doug Linkhart. Motion passed without objection.**

### **Approval of Minutes**

**Elena Wilken noted that the April minutes should reflect that she was present at the meeting.**

**Doug Linkhart moved to approve the minutes with the noted change. Seconded by Debra Perkins-Smith. Motion passed without objection.**

### **Informational Items**

#### *Chair*

Andy Spielman informed Council that as an OGCC Commissioner, he is chairing a one day conference on hydraulic fracturing or fracking on June 8, 2012.

#### *Executive Director*

Ken Lloyd told Council that ozone season is kicking off today. The RAQC's Mow Down Pollution event is scheduled for June 9 at Dick's Sporting Goods Park in Commerce City and all the mowers have been sold through pre-registration.

Ken introduced Lauren Beliles who is a recent graduate of Metro State. Lauren will be working with Meg as a Communications Coordinator. He also introduced Anne Ritter, a recent graduate of University of Denver, who will be working with Steve as an Administrative Coordinator in the RAQC's mobile sources program.

He also introduced Dave Brown, a new AQCC Commissioner.

#### *Members*

Elena Wilkins noted CASTA had their spring conference last months and an entire day was spent on CNG vehicles.

### **Public Comment**

None.

### **Update on Denver B-Cycle Bike Sharing Program**

Andy Spielman introduced Parry Burnhap, Executive Director of the Denver B-Cycle. Ms. Burnhap presented an overview of the Denver B-Cycle Bike Sharing Program. She shared that they have 4,500 followers on Facebook and Twitter and they share RAQC ozone messaging with their followers. She said they have a partnership with RTD to include posters on light right and with Eco Pass information packets. She reminded everyone of their nonprofit 501(c)(3) status

and emphasized B-Cycle is not a city-funded program. She noted B-Cycle is unique because it also has an asset for which a fee can be charged. This means there is a steady stream of revenues to pay bills. Denver B-Cycle, unlike its competitors, does not outsource work. They are responsible for system design, station siting, customer service, marketing, development, maintenance of the bikes and balancing of the system.

In response to questions, Ms. Burnhap indicated that B-Cycle has 32 corporate memberships and there is currently no funding to expand to a Glendale station. She noted that new stations cost approximately \$50,000.

Ms. Burnhap said that B-Cycle has been involved in some discussions with DRCOG regarding transportation planning, but conversations have not been strategic to get the program into the planning. She noted that B-Cycle has shared its trip planning information with DRCOG.

Ken Lloyd informed Council that B-Cycle has also donated a free membership to the RAQC to be used as part of the OzoneAware program outreach.

*Public Comment*

None.

**Conversation with Mike King, Executive Director, Department of Natural Resources**

Andy Spielman introduced Mike King, Executive Director of the Department of Natural Resources. Andy said Mr. King, at the Governor's request, chaired the Task Force on state and local regulation on oil and gas development.

Mr. King informed Council that there is a perspective that oil and gas is new to Colorado which is not the case. He said the Oil and Gas Conservation Commission (OGCC) worked on some difficult issues in 2008 which helped to build credibility in a responsible manner. Mr. King said the OGCC was reformed to include nine members, including three from industry. The OGCC wanted to create state of the art regulations for oil and gas, energy regulations and wildlife mitigation plans to do habitat improvements. The wildlife mitigation would be used to off-set the footprint from oil and gas development.

Mr. King said that some current oil and gas development is occurring next to residential areas. This has become a major issue. He said there is a fundamental lack of understanding of the extensive regulations to deal with impacts that surround oil and gas development. Mr. King said during discussions it was determined there was a need for better communications with local governments. He indicated since they have begun to articulate what the OGCC is doing and how local governments can fit into the processes.

Will Toor disclosed that Boulder County has a one year moratorium on oil and gas operations. He said this was done to allow officials time to consider local regulations as they see oil and gas operations creep into Boulder County from Weld County. Additionally, he said that from a citizen perspective it is odd to not have the same ability through traditional avenues to address issues between industrial, agricultural and residential areas. He stressed there are substantive issues that need to be worked through. Mr. King said the rules consider differences in rural and urban areas. He said the OGCC has established a strong set of rules to begin discussions. He also indicated that the OGCC has asked local governments to allow them to show their ability to deal with issues before they create their own rules.

Steve Hogan said that the City of Aurora just adopted a new set of standards that are not known to contradict state rules. These standards clearly differentiate for different locations. He also noted that industry has not had any issues with the rules.

#### *Public Comment*

Rose Walden said COGCC section 805 rule only applies to Piceance Basin and asked if there were plans to change the rule to include the Niobrara formation. Mr. King said it should be part of the next discussions for the Task Force.

Andy Spielman noted that the Task Force was not an easy process but it was a bipartisan effort. Appointments to the Task Force were made by the Governor, Speaker of the House, President of the Senate, the Attorney General, industry, local governments and the conservation community. He also said as an OGCC member, he believes the Governor did a great job with the fracking disclosure rule last December and attributed the success to the stakeholder process. He thinks the Task Force is headed in the same direction with its stakeholder process.

#### **Discussion of Recent Research Characterizing Emissions and Potential Health Impacts from Oil and Gas Operations in Colorado**

Ken Lloyd noted that at the last meeting there was a lot of discussion about oil and gas issues and recent studies. For today's meeting a panel of experts involved in some of the recent studies has been assembled to provide additional information. Ken indicated the panelists will provide a high level overview of the studies and then Council will have time for discussion with the panel.

Dr. Gregory Frost, Chemical Sciences Division, National Oceanic and Atmospheric Administration (NOAA), provided Council with a handout that contained details of a study in the Colorado Front Range which looked at the composition of the regional and global atmosphere by sampling air from surface sites, towers, motor vehicles, ships, and aircraft deployed around the world. He explained that the study used two platforms, the 1000-foot-tall Boulder Atmospheric Observatory (BAO) tower near Erie and an instrumented motor vehicle, which were used to quantify the ambient levels of close to fifty different species, including methane and a limited suite of volatile organic compounds (VOCs). Dr. Frost noted that since measurements began in the tower in 2007, they noticed that the levels of several hydrocarbons were much higher at BAO than any of the other seven NOAA towers around the country, and that these higher hydrocarbon levels were well correlated with enhanced methane levels. To understand the BAO tower data, the team collected 88 additional air samples in canisters with the instrumented vehicle downwind of different sources of methane around the Front Range during the summer of 2008. Dr. Frost explained their analysis demonstrates that high quantities of ambient measurements can put independent constraints on inventories.

Dr. Jessica Gilman, Chemical Sciences Division, National Oceanic and Atmospheric Administration, indicated that the focus of their research is aimed at understanding the chemical composition of the Earth's atmosphere in order to determine impacts of local and regional air quality. She said it is important to characterize VOCs. She said there are two intensive studies underway – Denver/Julesburg and Utah. She indicated they have a large data set and are working to publish the study data in February/March 2013. They have compared local studies to state and national studies and found that chemical signatures from oil and gas can be differentiated from other sources and relative contributions can be determined. In response to a question, Dr. Frost indicated this will be one of the first studies to be published that can compare data to inventories.

Dr. Lisa McKenzie, School of Public Health, University of Colorado, presented findings from the study, *Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources*, which was published in *Science of the Total Environment*, February 2012. She outlined a complex mix of chemicals associated with oil and gas development and noted they result in secondary pollutants. She stated the public health concern is the transport of these pollutants and ozone to nearby residents. Dr. McKenzie indicated the health risk assessment was done for two residential populations, one close to oil and gas exploration activities and one farther away. The assessment contains data from before and after the OGCC regulation changes. Dr. McKenzie outlined three findings: first, residents close to well completions may develop health issues; second, residents in close proximity to oil and gas development are at a higher risk for cancer; and third, there is clearly a high potential for exposure to hazardous air pollutants during well completions. Based on the findings of the Assessment, she said that the recommendation is that emissions be reduced during well completions. She noted that further study is warranted to reduce health effects of exposure to emissions, to better direct efforts to prevent exposure, and to determine effectiveness of new rules.

Gordon Pierce, Technical Services Program, Colorado Department of Public Health and Environment, provided Council with an overview of monitoring as it relates to oil and gas development. He explained that emissions inventories are divided into 22 source categories including oil and gas point sources and oil and gas area sources. Volatile organic compounds (VOCs), benzene and nitrogen oxides (NOx) are all strongly related to oil and gas sources or mobile emissions. He explained that the current inventories feed into the current ozone modeling. He emphasized that the charts show an overall decrease in ethane and benzene levels between years.

Mr. Pierce noted several current and future studies that involve APCD's participation. He said there is a three-state study, a collaborative effort involving Colorado, Utah and Wyoming, as well as USFS, NPS, BLM and EPA. CDPHE will continue to monitor ozone precursors in the North Front Range and collaborate with Garfield County. Through collaboration with NOAA the ACPD will expand ozone precursor monitoring as targeted and background monitoring. Mr. Pierce also indicated they will assist with the planned CSU study in Garfield County related to oil and gas emissions. They are also planning to pursue a NASA Discover – Air Quality Study for the North Front Range area.

Cindy Allen, Anadarko Petroleum Corporation, said that collaboration on studies is important and supports the use of peer reviewed scientific studies. Ms. Allen indicated they have met with NOAA regarding studies and have informed them that a more speciated data set would be more accurate. She said the industry believes it can help to provide more accurate data and is taking steps to look at data being used in studies.

Council discussed with the panel members the purposes of the studies and speciation of data sets. It was noted that the purpose of the CSU Study is to characterize emissions. The results from this study should be available in 2014. Dr. Frost noted that relating what is seen in atmospheric observation to speciation is difficult. Ken Lloyd said that coordinating ambient measurements to inventories is always an issue which is why the modeling analyses use sensitivities analyses in its modeling to address the "what ifs".

There was discussion regarding planning deadlines and study timeframes and whether study data will be available when needed to make planning decisions.

Discussion also included whether industry works closely with studies to provide accurate information. Cindy Allen reiterated that she thinks there is good collaboration.

### *Public Comment*

Bob Yuhnke, SWEEP, asked Dr. McKenzie whether the Garfield County Study addressed only risk of cancer and whether the risk was cumulative. Dr. McKenzie indicated the study considered both cancer and non-cancer health risks and that the risks are cumulative.

Dennis Smith, a risk assessment specialist with TMSS Inc., said he appreciated hearing that the screening levels of the risk assessment had a lot of uncertainty and noted that they tend to err on the side of safety. He questioned whether the study considered the findings from a study conducted by the Sakamoto Institute. The Sakamoto Institute conducted a cross-sectional epidemiological study where they went into Garfield County and other counties and counted cases of incidents of disease and that study did not find measurable illnesses that could be related to oil and gas. Dr. McKenzie responded that the Sakamoto study was not sufficient to show cause and effect, it just shows a point in time. It was noted that the Sakamoto study has not been publicly peer reviewed.

Scott Jackson, EPA Region 8, indicated that EPA is collecting similar measurements as NOAA and other agencies. He noted that EPA is has been working with NOAA and others on the data collection and review.

A representative from Encana Oil and Gas, asked if Dr. McKenzie's study looked at development versus production. Dr. McKenzie indicated that the study collected samples every six days for three years but only collected 24 samples we collected at well completion and the study paper outlines the limitations of that data.

### **Discussion of New EPA Regulations for Oil and Gas Operations and Implications for Colorado**

Will Allison, APCD, indicated that the OGCC, APCD and EPA have extensive regulations for oil and gas.

Garry Kaufmann, APCD, provided Council with an overview of the oil and natural gas air pollution regulations that were proposed by EPA in August 2011. The rule has been signed but has not been published in the Federal Register yet, which is required before it becomes final. He summarized that Colorado has many rules in place and the State welcomes the Federal regulations which make some incremental changes that are beneficial for reducing air pollution. He said the changes to comply with the Federal regulations are probably not radical changes for industry in Colorado. Mr. Kaufmann reviewed the sources covered by the new rules.

In response to a question of whether CDPHE has looked at how oil is treated differently than natural gas with regard to the new rules, Mr. Allison replied that from EPA's perspective it applies to gas wells. Mr. Kaufmann clarified that the new rules apply to new or modified wells.

## **Other Business**

### **Request from Clear the Air Foundation for RAQC Support**

Ken Lloyd provided Council with an overview of the proposal that was received from the Clear the Air Foundation. The proposal specifically requested that the RAQC help spread the word about the Foundation's public program to remove old, or otherwise poorly maintained, vehicles—high hydrocarbon emitters—from the road by officially endorsing their efforts and collaborating with them to promote the program through some of the RAQC's existing communication channels. Ken informed Council that staff has looked into the Foundation and think it would be a good partnership.

In response to a question about RAQC past practices with partnerships, Ken Lloyd indicated that partnerships are done on a case-by-case basis. He noted that the RAQC has created partnerships with groups because of similar messaging, as well as the benefit of additional avenues to promote the work of the RAQC with use of minimal staff and funding resources.

Will Toor expressed some concern regarding messaging. Mr. Payne emphasized that part of the partnership would be to collaborate on the messaging.

**Jep Seman moved to adopt with consideration of messaging the recommendation to support the Clear the Air Foundation as recommended. Seconded by Paul Natale. Motion passed without objection.**

### **Plans for Next Meeting- August 3, 2012**

Council decided to move the next meeting to either September 7 or September 14. Misty Howell will email members to determine which date works best for the majority of members.

## **Adjournment**

There being no further business before the Council, the meeting was adjourned at 12:30 p.m.