

**AIR QUALITY ADVISORY BOARD  
REGULAR MEETING  
MONDAY, JULY 16, 2012**

**DATE:** Monday, July 16, 2012  
**LOCATION:** 215 N. Mason Conference Room 1-A  
**TIME:** 5:30 – 8:30 pm

**For Reference** Greg McMaster, Chair - 484-3348  
Ben Marvel, Council Liaison - 217-1932  
Lucinda Smith, Staff Liaison - 224-6085

**Present:** Nancy York, Michael Lynn, John Schroeer, Dennis Georg, Greg McMaster, Rich Fisher

**Absent:** David Dietrich, Scott Groen, Hugh Mackay

**Staff present** –Alexis Hmielak, Brian Woodruff, Bonnie Pierce

**Guests:** Gordon Pierce, Greg Behm and Stacy Baumgarn from Energy Board

**Call meeting to order:**

Greg McMaster called the meeting to order at 5:30 pm.

**Agenda Review** - none

**Public Comments** -none

**Review and Approval of May 21, 2012 minutes**

Greg McMaster made a minor wording change on page 2.

John Schroeer moved and Dennis Georg seconded a motion to approve the May 21, 2012 minutes as amended.

Michael Lynn, John Schroeer, Dennis Georg, and Rich Fisher approved

Greg McMaster and Nancy York abstained because they were not present at that meeting.

Minutes were approved as amended

**Air Quality Monitoring in Fort Collins**

Gordon Pierce, Technical Services Program Manager at the Colorado Air Pollution Control Division, provided information about the Air Pollution Control Division's routine air quality monitoring. He was also available for discussion about air quality monitoring for oil and gas impacts.

- In 1970 the Clean Air Act was created to protect public health. The EPA established ambient air quality standards for 6 criteria pollutants. There are approximately 60 sites around the state of Colorado that monitor for these pollutants. Most are in population centers for public health. The US Forest Service, National Park Service, Bureau of Land Management and a number of industrial companies also have monitors around the state.
- **Monitoring types:**
  - "Continuous" - provide hourly values

- “Daily” - provide 24-hour values.
- Reasons to have air monitoring:
  - EPA requirements
  - Compliance with the National Ambient Air Quality Standard (NAAQS)
  - Baseline monitoring
  - Source impacts
  - Air quality trends
  - Permit compliance
  - Local concerns and requests
  - Community assistance
  - Monitoring an area to be sure it is maintaining its compliance status
  - SIP’s/maintenance plans
  - Research support and collaboration with NOAA and ENCAR
- EPA monitoring objectives:
  - Provide air quality data for the public in a timely manner
  - Support compliance with ambient air quality standards and emissions strategy developments and emissions trends
  - Support air pollution research studies
- Requirements for all criteria pollutants are set in the Code of Federal Regulations (CFR) including population, design values, and stationary and mobile sources.
  - National ambient air quality standards have been set for carbon monoxide nitrogen dioxide, ozone, sulfur dioxide, particulates and lead.
  - Carbon monoxide is no longer a problem in the Front Range area mainly because of better fuels and vehicle technology. Lead has also decreased for the same reasons.
- The North Front Range area (from Douglas County to Wyoming) is the only area in Colorado that is in ozone non-attainment. Ozone is a secondary pollutant and therefore difficult to control.
- What is done with the monitoring data:
  - All air monitoring data, when validated, is uploaded to the EPA data repository.
  - A public annual data report is published on the Air Pollution Control Division (APCD) website.
  - Forecasting is performed daily and posted on APCD Technical Services Website.
  - “Continuous” data is posted hourly on the APCD Technical Services website and uploaded to the EPA’s AIRNow website. <http://www.colorado.gov/airquality/> <http://airnow.gov/>
  - Depending on the data, advisories are issued.
- Monitoring sites vary in price from \$60,000 - \$70,000 for a shelter, analyzer, meteorological, equipment, data logging/communications and installation. Multi pollutant sites can cost \$250,000 or more. Operational costs vary and are in addition to the above costs.
- There are many oil and gas sites in Colorado. The Wattenberg Field has the most wells at approximately 20,000.
- Ozone data in the North Front Range shows that, through 2011, three sites (Chatfield State Park, Rocky Flats and Fort Collins west) have been in ozone non-compliance. There are several more sites that are expected to be non-compliant e in 2012.
- Ozone precursor studies were done in various areas along the North Front Range, including Fort Collins west. However, the trend has been downwards from 2003 to 2012.
  - John Schroeder stated he was not sure better vehicle technology had a big influence on this reduction. He thought it was because the Air Quality Control Commission passed regulations in 2005 that required the oil and gas industry to reduce emissions from uncontrolled equipment by 30%.

- Greg McMaster stated he was familiar with a study that showed oil and gas emissions are far greater than assumed. He was concerned how to get better estimates of actual emissions because of the increasing number of wells in our area. Gordon Pierce agreed that some factors in the emissions estimates are missing, but are improving.
- Dennis Georg asked if the oil and gas companies are paying a large enough permit fee to allow funding of adequate monitoring of their emissions. Gordon stated the permit fees are set in statutes and cannot be increased without changing the statutes. Many of the emissions are coming from leaks. Gordon also said the legislature has approved 13 additional staff to help with monitoring.
- Ozone precursor emissions in the study included :
  - Ethane and propane – oil and gas-related
  - Benzene and toluene – urban (combustion emissions) and oil and gas-related
  - Ethylene and Acetylene – urban-related (combustion emissions)
- Future plans for monitoring oil and gas include:
  - Taking a closer look at monitoring in Denver, Garfield county and Grand Junction. In addition, the number of required “green completions” are increasing.
    - There is higher potential for emissions risk during well completion activities than during drilling. “Green completions” use a closed loop system that do not use open pits and flaring of methane.
  - Building a third long-term monitoring site in the area.
  - Getting more samples to determine if the emissions trend here is similar to Garfield County’s.
- To answer Dennis Georg who asked if there is consideration to create a lower ozone standard, Gordon Pierce stated the EPA had proposed a new standard, but it was put on hold. A new proposal based on new studies is expected to come out by October, 2013. It may be politically difficult to lower the ozone standard, but scientifically, it probably should be lowered.

Discussion:

- Brian Woodruff asked, since gas wells are being drilled close to residential areas, does the Colorado Health Department have any advice for families at risk. Gordon stated there is no specific advice at this point because the duration of the well completion phase is only a few days and then it returns to the acceptable range. The Colorado Air Pollution Control Division monitored a community in Garfield County that had a gas well 130-500 feet away and discovered higher emission levels during well completion activities. There are discussions to increase the setbacks.
- Greg McMaster asked how do you evaluate long-term exposure and what do you tell a person living near an oil and gas well that comes in under the current regulatory standards. Gordon Pierce stated there are no ambient air standards for air toxics, only emission limits. It is a judgment call because there are so many variables.
- Greg McMaster stated the NRAB is concerned about oil and gas development in nearby Weld County and wondered if there were enough monitoring stations. Gordon Pierce stated there is no need for more monitoring stations because they are already monitoring the maximum concentrations of emissions to which the public will be exposed.
- Brian Woodruff asked if there is enough monitoring of ozone precursors to support good modeling. Gordon stated that, ideally, there could be more but, in general, there are currently enough.
- Dennis Georg asked if we have enough monitoring information to create a plan to reduce the particulates. Gordon said the question is how to use future monitoring stations. Gordon stated the modeling suggests that in the next few years older coal power plants will be shut down or converted to natural gas. This should substantially reduce NOX, and therefore ozone levels.

### **Update on City Staff Oil and Gas Fracturing Group Activities**

Bonnie Pierce, Environmental Data Analyst, gave the AQAB a quick update on the City's Fracturing Group Activities. The group has 9 members from various City departments and is meeting weekly. Their goal is to develop regulations and an operator agreement framework for oil and gas development that reflects the City of Fort Collins' values. Current direction from City Council is to gather public feedback; engage the environmental community and oil and gas developers and research areas of concern; then report to Council at their August 14 work session.

- To date the Fracturing Group has:
  - Put together a matrix of regulations from 5 Colorado communities and compared what they tried to do on top of the states' oil and gas regulations.
  - Set up meetings with the oil and gas industry, the environmental community, and home owners associations in the Hearthfire area.
  - Created an advisory committee composed of representatives from boards and commissions.
  - Developed a map of oil and gas sites in Larimer County and in Fort Collins
  - Identified sensitive areas such as natural areas, parks and schools, etc.
  - Met with the Assistant Director of the Colorado Oil and Gas Conservation Commission (COGCC) about state regulations and intergovernmental agreements between the City and the Commission regarding inspection authorities and the possibility to have them train City inspectors.
    - The COGCC encouraged the City of Fort Collins to use the special use review process at the local level for land use regarding security and use of roads.
  - Went to Loveland oil and gas meeting
  - Toured oil and gas sites near Greeley
  - Submitted a BFO offer to help fund oil and gas oversight actions in 2013-2014 by the City of Fort Collins
  - Started building a website to share an overview of the issue including permitting and FAQs.
  - To answer Brian Woodruff, Bonnie Pierce stated there is no real way to predict future oil and gas well sites in our vicinity because, until a company submits a permit, their intentions are unknown. The COGCC is encouraging oil and gas companies to begin dialogues with communities as early as they can in the permitting process.

### **Community and Municipal Carbon Emissions Progress**

Bonnie Pierce, Environmental Data Analyst, reviewed the community and municipal carbon reduction progress as of 2011, and gave a brief overview of the City's Greenhouse Gas Emissions Management System (GEMS).

- The 2011 community and municipality greenhouse gas inventory results are reported in several reports: The 2011 Community Greenhouse Gas (GHG) Inventory and 2011 Municipal GHG Inventory prepared by Bonnie Pierce, the annual Municipal Sustainability Report compiled by Rosemarie Russo, and the Climate Action Plan Status Report compiled by Lucinda Smith. The GHG inventory calculations are now done by the new Greenhouse Gas Emissions Management System (GEMS) database with annual summary reports automatically generated. Previously they were managed in several spreadsheets.
- 2011 community greenhouse gas inventory/emissions by source:
  - Electricity (greatest contributor);
  - Ground travel;
  - Natural gas;

- Waste-to-landfill (landfill gases and embodied recyclable materials energy);
- Air travel (computed with a “trans-boundary approach” that uses the jet fuel data from DIA and Fort Collins/Loveland airport to estimate the percentage of GHG emissions that come from the Fort Collins area.)
- FC community GHG emissions:
  - Total GHG emissions are down 14.7% in total emissions from 2005 baseline year.
  - One of the largest emissions reductions is in the waste-to-landfill category. Indicators are unclear why this reduction occurred. One possible reason is the economic down-turn and that people are buying less.
  - Dennis Georg felt reduced air travel emissions are because of more efficient airplanes.
- FC community solid waste tonnage:
  - There was a dramatic drop in community waste of 44 %
  - Solid waste tonnage is determined from data collected from by the waste reduction and recycling program staff for all the community’s haulers. We are beginning to get more detailed data from them.
- Fort Collins community GHG emissions, sales & use tax, and population:
  - Even though Fort Collins’ population is increasing, the per capita GHG emissions are decreasing.
    - John Schroeer suggested Bonnie might also graph the per capita income relative to GHG emissions.
- Comparison of emissions from natural gas and electricity in city operations:
  - City electricity emissions in general decreased.
    - Electricity emissions went down primarily from a more efficient energy mix from PRPA.
- City Operations Industrial Recycling and Diversion (that had not been accounted for in previous years).
  - Diversion data includes wood, electronics, yard waste diversion, concrete and asphalt, and scrap metal.
  - Wood recycling was up because of the 2011 fall storm tree branches the City mulched.
  - Substantial amounts of concrete and asphalt are being recycled by the City.
- The Greenhouse Gas Emissions Management System (GEMS) system:
  - Has proved to be a successful way to calculate the 2011 GHG inventories and transition from spreadsheets to a database.
  - Quality Management Plans were developed for both the community and municipal inventories
    - Available at <http://www.fcgov.com/airquality/>
  - Expanded the municipal inventory to include numerous waste diversion activities and Natural Area utilities
  - Work underway to expand inventory to include all water reclamation process and fugitive emissions

## Discussion

- John Schroeer asked if the tree limbs recycled at Hageman’s was included in recycling data. Bonnie stated she thought they were.
- To answer Rich Fisher who asked if fugitive emissions are greenhouse gas (GHG) emissions or other emissions, Bonnie stated that these would include fugitive emissions of greenhouse gases and would be accounted for in the GHG inventory (e.g., from wastewater processing).. The current

GHG inventories, however, do not include all six greenhouse gases (e.g., hydrofluorocarbons are not included).

- Greg McMaster stated, since the population will continue to increase, and most of the Climate Action options have been utilized, how does the City project increasing solid waste diversion by 5.5%.
  - Dennis Georg stated he felt there are still opportunities with composting.
  - Bonnie stated, based on the draft ICLEI community protocol, there should be changes in how we account for emissions from solid waste that estimate future emissions from landfilled waste versus just historical emissions. This will encourage local governments to increase diversion efforts to keep solid waste out of landfills instead of just focusing on landfill management techniques to help reduce GHG emissions.
  - Dennis George pointed out vehicles, homes and power generation will continue to get more efficient and cause more reductions.

### Brief updates & announcements

- City's Oil & Gas Advisory Committee – First meeting August 1.
  - David Dietrich and Rich Fisher volunteered to be representatives from the AQAB. Dennis Georg volunteered to be backup.
- Bike Advisory Committee report
  - AQAB representative Michael Lynn reported that nothing that affects air quality was discussed at their last meeting
- Follow-up on tonight's actions, if any
  - Dennis Georg submitted the AQAB's white paper to Council. The City Manager read it and appreciated getting it by email because it was faster than getting it in the packet.
  - Denny Georg stated the AQAB does not have an opportunity for input at this time but will have another opportunity to comment on the BFO in the next round. The budget is also on the Council's agenda December 11.
- Greg McMaster asked if the AQAB would like to hold another public forum to discuss the state of air quality in Fort Collins and perhaps combine it with health care.
  - John Schroer suggested maybe having Gordon Pierce present to talk about air quality monitoring.
  - Dennis Georg suggested they could also address the ozone alerts in the newspaper.
  - Nancy York suggested added information about healthy homes.

### Adjourn

Nancy York moved and John Schroer seconded a motion to adjourn the meeting.

Greg McMaster adjourned the meeting at 7:35 pm.

Approved by the Board on August 15, 2012

Signed

Alyssa Hilda  
Administrative Secretary II

8/15/12  
Date