

Energy and Environment Symposium: Oil & Gas Education for Local Government April 19 & 20, 2017

Travel Report for Elizabeth Law-Evans, Broomfield City Council

Hosted by Garfield County and Colorado Mesa University's
Unconventional Energy Center

<http://www.coloradomesa.edu/energy/symposium/>

AGENDA: <http://www.coloradomesa.edu/energy/symposium/documents/symposium-agenda-2017.pdf>

SUMMARY OF THE SESSIONS I ATTENDED (Thursday, 4/20/17):

(Note: I have marked in **bold** items that I believe will be of particular use to
Broomfield.)

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Spacing and Pooling . . . Demystified

Jane Stanczyk, COGCC

Ms. Stanczyk gave an explanation of how “spacing” and “pooling” work using a couple of simple hypothetical examples. This presentation was a bit more detailed than the presentation that Director LePore gave at the Town Hall at the 1stBank Center in February.

Perhaps the most interesting part of the talk came afterwards in the Q&A session (I have paraphrased the questions and answers):

Q: What’s the “response” to the question regarding when people ask about the cost and legal liability of forced pooling? A: Basically you would have to ask the industry. (The implication was that it was uncommon for operators to hold involuntarily pooled owners legally liable for things that go wrong.)

Q (from Liz): There’s a bill just introduced in legislature re Forced Pooling Threshold (background: Broomfield, activist-introduced requirement for majority—now eliminated). Do you have an opinion on that? A: **Forced pooling has been state law since 1951, legislature can change the law.** She doesn’t have official opinions on this, although she did say that she has personal opinions (I wasn’t able to follow up with her afterwards since I couldn’t find her).

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Panel Discussion: Oil and Gas development in the urban landscape  
moderated by Greg Deranleau, COGCC

Troy Swain, Weld County:

**County recently adopted code change: Weld Oil and Gas Location Assessment (WOGLA). Look at every location on a formal basis.** Administrative or county commissioner approval.

WOGLA

information: [https://www.weldgov.com/UserFiles/Servers/Server\\_6/File/Departments/Planning%20&%20Zoning/Land%20Use%20Applications%20and%20Assistance/Land%20Use%20Applications/Applications/WOGLA%20Application.pdf](https://www.weldgov.com/UserFiles/Servers/Server_6/File/Departments/Planning%20&%20Zoning/Land%20Use%20Applications%20and%20Assistance/Land%20Use%20Applications/Applications/WOGLA%20Application.pdf)

Greg Deranleau asked Troy a follow-up question: How does WOGLA dovetail with LUMA? Answer: Required to notice and consult with local government. Yet to be said how it's going to work out.

LUMA information: <https://www.coga.org/wp-content/uploads/2016/03/COGCC-Oil-Gas-TF-Rulemaking-Summary-Whitepaper.pdf>

Tamara Allen, City of Grand Junction: **LUMA rule very much evolving.**

Jamie Jost, Jost Energy Law, PC: industry operator perspective, was on Governor's task force

- Industry preference: avoid being in LUMA.
- A lot of planning goes in to a LUMA facility.
- Purpose of the LUMA rule was to provide collaboration.

Q from Broomfield Council Member Beacom re LUMA: If today we're dealing with an oil developer, and the site does not meet the criteria for LUMA, but between now and then the builder builds and the site "becomes" a LUMA site, how is that dealt with? A: State's perspective: count building units within platted developments, not built

but platted. **State would count platted units as building units** [so long as] they were actively developing, they would count that.

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State Agency Updates

Bob Randall, CO DNR

Points of intersection w/DNR include:

- COGCC
- water
- wildlife

Funding — bill at the legislature

Larry Wolk, CDPHE

Department Priorities:

The Public Health Side:

- moniker of “The Leanest State”
- health departments involved in ongoing surveillance
- also amongst the lowest cardiovascular risk, most types of cancers
- we do have some challenges:
 - immunization rates falling off. Science is very strong when it comes to the value of immunizations.
 - Another concern: opiates (either prescription or illicit). See especially in rural areas of the state re providing prevention and treatment. President released half a billion to address this issue.
 - Mental health (related to some of the opiate issue). Integrate doctors and mental health offices so we don’t silo mental health services. Expand State Integration Model to integrate mental health into system.
 - Suicide rates, especially amongst teenagers and middle-aged men. Looking at all kinds of things. In this particular part of the state, piloting a program with gun shop owners and gun range owners. Guns implicated in suicide 8x more than they are implicated in acts of violence. When folks own a gun, educate them so they don’t use it against themselves.

- Marijuana: a lot of talk as to whether legalization is a good thing or not. Short-term: still haven't seen an increase in marijuana use amongst youth or adults. Started with relatively high use to begin with (1 in 4 adults, 1 in 5 teens). Unacceptable rate w/r/t teenagers. Initially saw a spike in emergency room use and hospitalizations, but that was being driven by out of staters. Made some efforts to educate tourists who may be partaking. Haven't seen a significant bump in tourism from this, just more tourists parking. Don't really know yet how to interpret driving under the influence. Issue is that we don't have the same kind of testing like we do for alcohol, don't have correlation between what's in the bloodstream and intoxication. Impairment and level in bloodstream don't have a good answer as to how we can measure impairment and how that effects driving.
- Oil and Gas
 - Task force a few years ago was very beneficial. Host resource line and resource site for public to contact with questions.
 - Mobile monitoring unit that's live—was out in Erie a couple of weeks ago.
 - **Task force charged them with putting together compendium looking at health effects specific to O&G. Important for us a health dept for us to put for the evidence as it exists today.** (Mike Van Dyke will summarize later today)
- Environmental: Land, Water, Air
 - Land: landfills, esp. in smaller communities. Many landfills are not in compliance. Close them or get them in to compliance.
 - Water: relatively quiet (relative to air)—no significant changes coming. Hearings relates to establishing new levels of molybdenum.
 - Air: work towards complying with federal rule as regards adaptive technologies. Methane good right now. Carbon: economics may drive this more than environmental decision making. Lots of rhetoric at federal

level. Governor very supportive of making sure we have a clean environment but also a business friendly environment. Ozone: at some point we're going to have to get someone's attention at the federal level w/r/t ozone levels. We have other reasons as to why our ozone levels are high: altitude, etc. Higher background ozone.

Matt LePore

"Balance has become an important word for the COGCC."

Updates new at COGCC:

- Live new website, Daily Activity Dashboard is new (upper right).
- Advanced planning on oil and gas locations is important as we all balance all of this . . .
 - Earliest indicators that oil and gas coming to your neighborhood is a spacing order. Now pushing to local governments announcements about spacing unit info.
- Next Weds will have 2 additional features of the map: ability for public to search the map by address (as opposed to Township and Range)

Activity

- seems to be ticking up a little bit
- permit activity Feb [2017 703](#) permits submitted, about double as last year
- same true for location assessment permits: highest number of location permits in 2 years.

Plugging Wells: tied to advent of horizontal well production in the state

- 2009 1st horizontal well drilled in CO
- leaping upward: [2014 784](#) existing vertical wells plugged that year
- 2015: 660 plugged
- 2016: 856
- **Collateral effect of switching to horizontal development: plugging of horizontal wells. Changes in technology. They think it's a positive in terms of effect.**

Legislature: funding

- tangible effect of being understaffed: time it takes to process permits

Close with stats:

- 2nd oldest commercial well in US, 1862 in Florence
- 54k active wells April 2017
- Active wells in 42 counties: Weld, Garfield, Mesa
- 5735 horizontal wells, nearly all in Weld County (all drilled after 2009)
- National rank: 6th largest state in natural gas, 7th in oil production
- % horizontal wells: 2010 4%; 2016 78%. Amazingly rapid transformation of technology—most along Front Range. **Which happens to be one of the fastest growing population in the country. "Interesting confluence."** Transformation of technology coinciding with population boom.
- Double - digit increases in production from horizontal drilling, quadrupled from 2010 to 2015

Current Events:

- BoCo extension rolling moratorium and fallout therefrom.
- Citizens appeal COGCC's denial of a petition re rule making — What do “balance” and “in a manner consistent with” protecting public health mean in Oil and Gas Act (2017)?
- BoCo adopts new O&G rules, pushing boundary between state and local authority.
- Lafayette adopts climate bill of rights.
- Thornton considering new O&G regs—similar to BoCo's in terms of pushing boundary.
- Broomfield convenes O&G Committee to review comprehensive plan.
- Eastern Boulder County: Operator seeks “Comprehensive Development Plan” to drill up ton 216 wells to develop 7600 acres. Potentially precedent-setting. Some other operators protesting that. Encourage comprehensive planning.
- Broomfield: Operator proposes four multi-well pads, with approx. 140 wells, to develop 16 square miles. PARAPHRASE: This idea of multiple well pads to

consolidate surface locations general seen as a positive, fewer locations, less surface development. But maybe a tipping point, too much of a good thing, **maybe too many wells on a single pad is not the best way to develop.** If 40 is too many, analog is that maybe we need another pad somewhere else, 2 20-well pads [instead of one 40-well pad].

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## Assessment of potential public health effects from oil and gas operations in Colorado

Mike Van Dyke, CDPHE

(Note: talk is basically the same one he gave at the Town Hall at the 1stBank Center in February)

### Introduction:

- CDPHE scientists who use data to answer questions that are important to Colorado citizens
- Task force recommended hotline on health concerns—encourage citizens to call
- Tell about **current report released a couple of months ago, requested by O&G task force:** Conclusions on O&G and health using available data
- **Standardized, unbiased, and transparent conclusions as to what the data says.**
- CDPHE is not dismissive of health concerns that may exist about O&G sites, know what they think the data says and CDPHE trying to fill the data gaps that exist.

### How do exposures occur?

- venting tanks
- leaking tanks
- drilling/fracking equipment
- traffic
- flares

### Are hazardous substances emitted?

- Yes: 62 substances identified
- each CAN be a health concern at SOME level of exposure
- ALL have other sources

### EFFECTS DEPEND ON LEVEL OF EXPOSURE

- Health-based guidelines established by EPA and state agencies
- Guidelines rely on using conservative methods to ensure protection of sensitive

individuals (values set really low to protect public)

- example: saccharine: in order to have bladder tumors would need to drink 100 diet sodas a day. This particular type of tumor in rat bladder had no human relevance, humans wouldn't get that type of tumor ==> SCIENCE EVOLVES OVER TIME

CDPHE systematic evaluation

- Part 1: screening assessment of potential exposures and health effects
- Part 2: systematic review of human health effect studies
- Health effects from oil and gas air emissions in colorado

Health Risk Assessment:

- What substances are released ==> How much are people exposed to? ==> Are these exposures above or below "safe" level?
- 33 sites
- 10000 measurements
- short-term versus long-term exposure

Health Risk from Long-Term Exposure: huge chart, "Key to it all"

- 62 chemicals listed
- all but few of them in "negligible risk level"
- few in low range of "acceptable risk" (10-40% range)
- **none in "elevated risk"**
- **risk from long-term exposure appears to be pretty low**
- non-cancer effects

Cancer Risk: only a few are known carcinogens

- "driver" is benzene
- each individual's risk of cancer in general is 1 in 3 (from any cause)
- EPA says additional 1 in 10000 is "acceptable"
- **all in "acceptable" range**

## Systematic Scientific Literature Review

- 12 studies
- 27 health effects
- quality of articles rated (they do this in lots of topics, there are standardized ways to do this)
- If you look in the literature, many “hits” on “oil gas health” BUT only 12 that actually had a measurement of exposure and measurement of outcome; most studies had huge number of limitations
- Nothing over limited evidence that a particular outcome is due to O&G

### **Major conclusions:**

- **risk is low for residents 500’ or greater**
- **studies of populations provide limited evidence of possibility for harmful health effects; more studies needed**
- **at this time results do not indicate immediate action**

Hotline: integrate response across entire department

- [www.colorado.gov/oghealth](http://www.colorado.gov/oghealth)

Mobile Air Quality Laboratory

### **2017-2018 Risk Assessment (also requested by task force)**

emission data from CSU studies (emissions data to be put in to computer models to collect exposure data)

- dispersion model based exposures
- calculate potential health risk
  - by distance
  - by operation
  - **directly attributable to O&G activities**
- **expected completion 7/2018**

Q: Studies of oilfield workers?

A: Overall an understudied population. They are obviously exposed at the highest levels.

Q: Many of the industry processes that were used in the past are outdated and not being used now. How will studies take in to account technological advancement?

A: Can't account for those things very well. Data that we have are the data that we have. Trying to estimate more of an upper end or worst case exposure. If results come back that there is some risk, will talk about the technological changes. Those are worst case examples.

Note:

Although I had planned to be at the entire symposium, after having car trouble at Genesee I missed the first day. Those presentations were videotaped and will be available on the Symposium website (see top of report) at some point. I plan on watching them and learning as best I can.

In addition, presentations from past Symposia are available for viewing and downloading at the Symposium website. One from 2016 was particularly compelling to me:

Energy and Environment Symposium from 2016: presentation on “Navigating oil and gas development in urban settings: Candid stories of contention, challenge and yes, success (panel discussion)”

<https://www.youtube.com/watch?v=egf2it19oOg&feature=youtu.be>

[http://coloradomesa.edu/energy/symposium/documents/2016presentations/11\\_Johnston\\_Dan\\_Oil\\_Gas\\_In\\_Urban\\_Settings\\_2016\\_EE\\_Symposium.pdf](http://coloradomesa.edu/energy/symposium/documents/2016presentations/11_Johnston_Dan_Oil_Gas_In_Urban_Settings_2016_EE_Symposium.pdf)

#### SUMMARY:

Dan Johnston, citizen of Windsor, begins his presentation at about 26:10 of the YouTube video (presentation is short, ends about 33:00)

- August 2014, PACE Project
- proposed next to our neighborhood
- 28 wells, etc. (see ppt)
- One of the concerns was that it really was an industrial operation sitting right next to the neighborhoods
- North-South road: west side is Larimer County, east side is Weld County
- Map shows the PACE Project: 40ac quarter-quarter shown in red circle
- Many houses within small area
- Most of the minerals were coming in to this project from the east, from Weld County from under the open lands and yet all the impacts were going to be felt near the neighborhoods.
- After a year of discussion, etc., an agreement was signed to move those wells about a mile northeast. Better location.
- Takeaways:
  - Citizens have an important role in this.
  - Local government must be proactive: “Once we changed the vision of the local

government to say ‘Let’s find the best solution for this project, not just the proposed solution,’ it became much more positive. Citizens don’t have much influence, but the local government “has a little more juice.” “When they talk to the operator, when they talk to the COGCC, people would listen to them.”

- All stakeholders at the table.
- COGCC involvement is critical—Director LePore was crucial in getting negotiations and discussions going when they had broken down.
- "The operator has publicly stated that this new location will cost them more money. And we have information that we believe that’s true. And so we’re grateful to the operator. We believe it’s a much better solution for the community as a whole. We understand it may cost the operator more money but we think it’s the preferred solution all the way around. So we’re grateful to the operator for doing that.”
- Thank you.