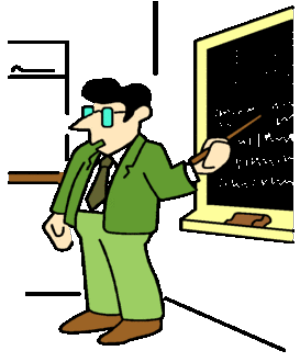


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# Personal Background

- Solid state physicist by education; systems engineer by profession
- Over 30 years technical director for Albuquerque business
  - consulting services on systems engineering management
  - fortune 500 clients on both US coasts and the Pacific Rim
  - multiple industries – defense (four services), health care, manufacturing, oil extraction, transportation, aeronautics nuclear power, newspaper publishing
- Over 15 years leading Middle Rio Grande regional water planning
- Over 6 years advising on oil and gas ordinance for San Miguel County



## Why Are We Here?

To identify topics and attributes the County could address in developing a regulatory oil and gas ordinance

To identify risks and impacts of oil and gas, as well as to suggest mitigation strategies for the ordinance

Not to recommend for or against particular choices or trade-offs

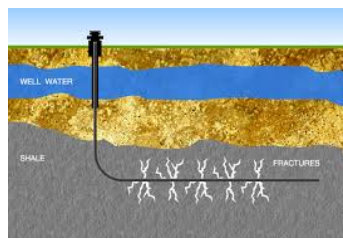


# San Miguel County Ordinance Background

- A citizen task force was sponsored by the county – it failed
- There were vocal pressures for a ban and for minimal regulation
- The commission's resulting guidance was to regulate strongly
- Citizens gathered numerous studies, analyses, reports and articles
- County hired an international expert to provide professional services
- Citizens drafted key ordinance text segments as input to the expert
- There were multiple drafts of the ordinance with detailed critiques
- The county held many public input meetings and hearings
- Ordinance was passed by the County Commission in late 2014
- To date – no lawsuits, no applications, low oil prices, inspector hired

# Issues Around Oil and Gas Development

- Oil and Gas is a complex, distributed, highly technical, heavy industry
- National and state level issues – climate change, tax revenues, etc.
- Financial rewards to and property rights of mineral estate holders
- Uncertain economic impacts on the County – direct and indirect
- Concerns raised by the public – especially for air and water
- Impacts to split estate surface property owners – despite SOPA
- Local risks and impacts that are not state or federally regulated
- Minimal enforcement by state and federal entities
- Intense news coverage of oil and gas accidents and mistakes
- Oil and gas operators can prioritize profits over health and safety
- Misinformation – industry-funded sources and fear-driven sources



# Why Have an Ordinance?

Not always, not often, but bad things do happen:

- Explosion/fire/spills
- Worker/citizen injury
- Air pollution
- Surface water pollution
- Groundwater pollution
- Public nuisances
- Noise and light pollution
- Proximity/compatibility impacts
- Taxpayer cost impacts
- Roadway and traffic impacts
- Cultural/archeological impacts
- Abandonment impacts

... etc.

An ordinance can provide the O&G operator with a strong incentive to prevent bad things

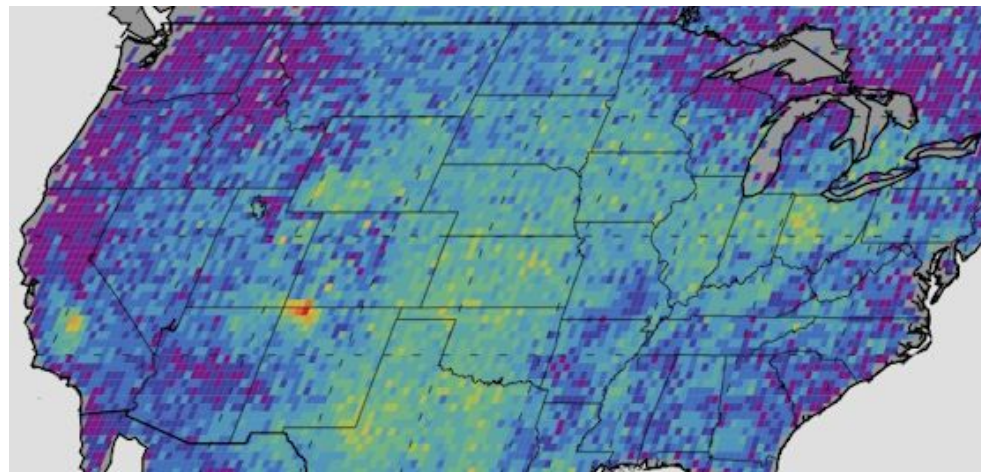
Industry people know how to be safe; make them want to be safe

# The Basic County Choices

To what extent will the County (taxpayers) pay for the costs the industry imposes upon the County?

To what extent will the County protect the health, welfare, and safety of the citizenry?

Easy questions to ask. Many difficult details to answer.



## Some Key Perceptions or Axioms

A total ban on oil and gas is seen to be legally iffy,  
and possibly undesirable.

A laissez faire approach to regulation is seen  
to risk multiple undesirable consequences.

Some level of allowing oil and gas development  
with a tight protective regulation may be an appropriate compromise.

The industry is believed to know how to operate safely;  
however, it can use a positive incentive to do so.

The Oil Conservation Division mostly regulates “down hole” behavior;  
local governments are left to regulate on-the-surface behavior

Handful of wells cannot justify other needed facilities and  
infrastructure,  
many hundreds, or thousands, will be needed to keep industry going

# Some More Perceptions or Axioms

County's authorized role is to protect health, welfare and safety of its citizens

Oil and Gas is a complex, highly technical and widely distributed industrial activity, with substantial multi-dimensional risks

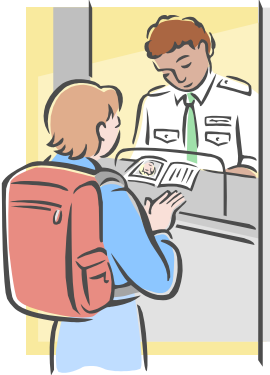
Zoning ordinance sections are the best home for regulations;  
too weak = insufficient risk mitigation;      too extreme = legal challenge

Oil and gas presents a different, more difficult zoning issue;  
Heavy industrial activities are widely distributed, not on one plot of land

Identify attributes or results of “responsible development”,  
And then provide inducements for developer to be responsible

Choose performance requirements over prescriptive requirements  
Where practical, specify what to achieve, rather than how to do it

# What Could Go in the Ordinance?



The County Could Set an Admission Price --  
Common Sense Requirements  
that

A Responsible Operator Should Follow  
Even Without an Ordinance

**Could Legally Require:** Transparency, Competence, Baselines,  
Application, Qualification and Permitting Processes,  
Ongoing Monitoring, Environmental Protections,  
Inspections, Enforcement, Penalties,  
Takings Offsets  
and  
**Coverage of Costs**

Will consider each in the following slides



## Some Legal Realities



County is limited to “police powers”  
to protect health, welfare and safety

State and federal requirements “preempt” County;  
County can extend, but cannot conflict with regulations

Cannot have “arbitrary and capricious” requirements;  
Rules must be justified as within “police powers”

Need a mechanism to avoid takings without due process  
or just compensation

Each attribute has both explicit and traditional legal interpretations



## **Not “Arbitrary and Capricious”**



Each requirement should have a basis in the  
County Commission’s “Findings” listed in ordinance

Each Finding should have a basis in the  
County Commission’s archived submissions –  
testimony, analyses, scientific reports, articles, etc.

Shows that the ordinance supports health, welfare and safety



# Information Sources

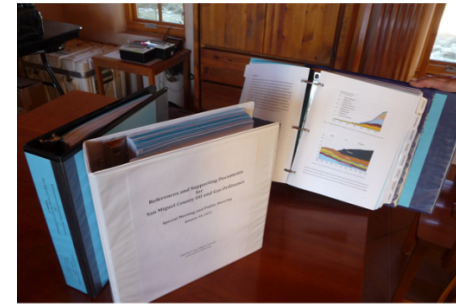
Existing ordinances:

Santa Fe

San Miguel

Rio Arriba

... Others



Existing studies, analyses, reports, and articles  
on all aspects of O&G development



Don't reinvent the wheel

# Transparency

Applicant could reveal in detailed writing:

- What they intend to do,
- How they will meet ordinance requirements
- What all the impacts will be,
- How they will mitigate any impacts, and
- How all costs will be covered

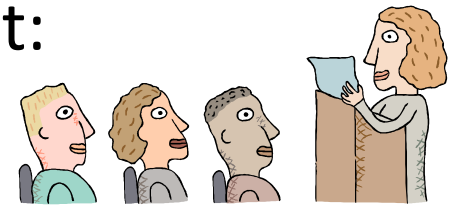


County could perform technical review of submission:

- Using well qualified and independent personnel
- To ensure the plans really satisfy all ordinance requirements

General public could have opportunities that:

- Allow timely review and input about materials
- Occur at each stage of the application process
- Permit appropriate incorporation of detailed critique



The ordinance application process could clearly specify the above

# Competence

The ordinance could require county personnel to meet clearly defined technical qualification criteria:

- Ordinance administrator
- Application reviewers
- Operations inspectors



The ordinance could require submission of detailed background data on the track record of a proposed operator, both for a new application and for a replacement operator.



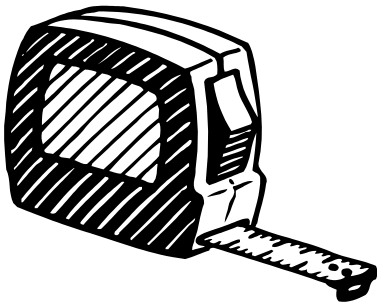
The ordinance could permit the County to reject a proposed operator for a less than satisfactory track record

Oil and gas related activities are not for amateurs

# Baselines

Prior to authorization to proceed on a project, the ordinance could require submission of detailed information on the status quo ante for the work site and for neighboring sites.

- Water quality
- Water quantity
- Air quality
- Noise levels
- Light levels
- Viewshed
- Ground cover
- Roadways
- Support services
- Other



A clear reference for detected changes and for reclamation needs protects everyone in disputes about pre-existing conditions



## Ongoing Monitoring



Automated sensors or meters to detect/report leaks and other non-compliance

Regular testing and observation where automation is impractical

Frequent review by the County of recorded data

Report aberrations for immediate remedy

Monitoring could continue after abandonment



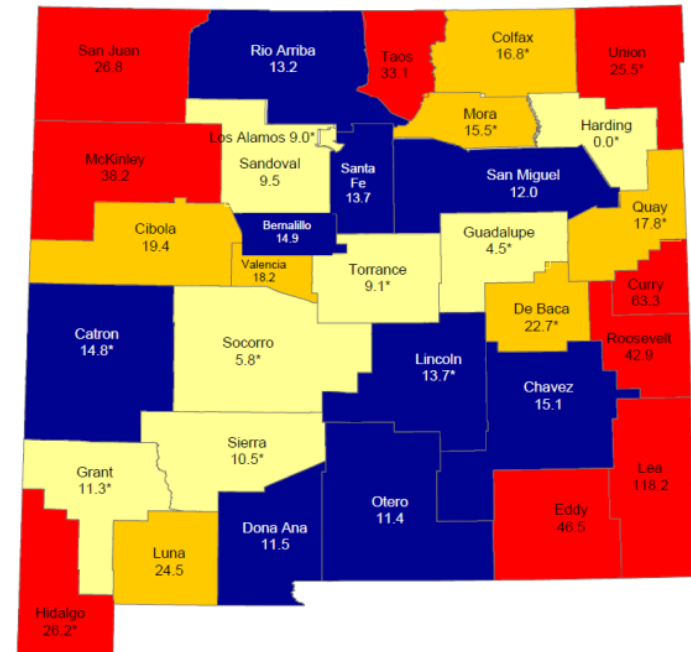
Need to catch problems before they become disasters



# Possible Protections

## Limit Degradation to Zero or Some Tolerance Over Baseline

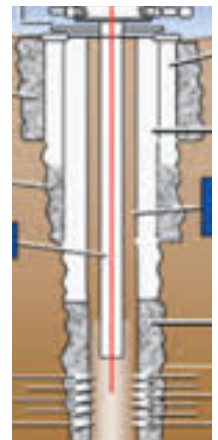
- Surface water quality & quantity
- Fresh groundwater quality & quantity
- Brackish groundwater quality & quantity
- Air quality (both dust and chemicals)
- Noise levels
- Light levels
- Traffic Levels



## Other Less-Quantitative Protections

- public nuisances; unique county attributes; acequia communities; long term economic health; dangers to residents and to workers; compatibility with land uses; surface property values; wildlife; split estate protections; historical/archeological sites; facility placement/setbacks; operational hours

Specify measureable limits for any impacts



# Frequent Inspections

## Require the County to Inspect All Facilities

- In depth
- Frequently
- Without prior warning
- At varied times of day and night
- With varied personnel



## Inspect for Violations On- and Off-Site

- Of county, state, and federal regulations

## For Detected Violations

- Of federal and state regulations, report to appropriate agency
- Of county regulations, take enforcement actions

Make sure operators know they are being closely observed



## Vigorous Enforcement

### Formally and Publicly Report All Violations

- County, state, and federal regulations
- Report state and federal violations to appropriate agency

### Promptly Re-Inspect to Ensure Remedial Action

### Impose Penalties for Violations of County Regulations:

- For failure to remediate
- For repeated misdeeds
- For egregious non-compliance



Prevent obscuring of problems



# Meaningful Penalties

Cash Fines Sound Good; Have No Meaning

- State law places small limits on allowable magnitude

Adverse Publicity is Close to Meaningless

Stopping Operations Will be Felt

- Suspension of permit at single site
- Suspension of permit at all of operator's sites
- Revocation of permit at single site
- Revocation of permit at all of operator's sites



Make sure penalties are not a routine cost of doing business

# Unconstitutional Takings

Need to recognize the complex issue



- Fifth Amendment: “No person shall be ... deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.”
- Recent case law: Okay to regulate even if it diminishes the economic value of the property ... as long as the value isn't diminished completely.

Protect against the most likely legal claims

# Coverage of Costs

If industry does not pay these direct and indirect costs, they will be borne by the taxpayers

- Permit reviews
- Monitoring, inspection and enforcement
- Safe waste disposal
- Post-operation inspection and remediation
- Accident response and cleanup
- Independent financial assurances to cover impacts
  - During development and operations and long after abandonment
- Impacts to surface property owners
- Additional facilities and services such as:
  - Roadway maintenance and improvement
  - Law enforcement and emergency services
  - Medical and other treatment services
  - Additional infrastructure
  - Changes in housing demand



Paid via permit fees, annual fees, cost reimbursement, or taxpayer 23

# Miscellaneous Additional Considerations

- Need to determine ordinance applicability – to private, state and federal lands (like Santa Fe, San Miguel), or just private lands (like Rio Arriba)
- Like for any other development, the County has the traditional responsibility and tools, in the form of zoning rules and ordinances, to regulate for the health, welfare and safety of citizenry.
- Ordinance must be consistent with existing local land use and comprehensive plans
- Ordinance could apply to all kinds of O&G facilities, including exploratory and production wells, monitoring wells, injection wells, pipelines, well pads, roads, compressor stations, waste storage and disposal, and temporary housing facilities
- On split estate properties, the ordinance is the only meaningful contract between industry, the County, and the split estate property owners
- Ordinance could contain a section for severability

# Ordinance Attribute Checklist

## Many Dimensions to Consider:

- Applicability (private, state, federal, tribal lands)
- Surface water quality
- Surface water quantity
- Fresh groundwater quality
- Fresh groundwater quantity
- Brackish water quality
- Brackish water quantity
- Air quality – chemical
- Air quality - dust
- Noise levels
- Light levels
- Hours of operation
- Setbacks of facilities
- Pipeline Right of Way Locations
- Visual impacts
- Waste disposal
- Archeological sites
- Historical Sites
- Land use compatibility
- Traffic levels
- Public nuisances
- Leasing Agents
- Temporary housing
- Acequias
- Worker safety
- Public health and safety
- Insurance and financial assurances
- Permitting documents (perhaps half a dozen)
- Permit reviewing
- Operations inspection and monitoring
- Post-abandonment monitoring
- Enforcement
- Penalties
- Takings protections
- Value impacts on split estate owners
- Economic impacts on County
- Cost allocation – permit review
- Cost allocation – monitoring
- Cost allocation – inspection
- Cost allocation – enforcement
- Cost allocation – post abandonment inspections
- Cost allocation – accident response
- Cost allocation – surface property impacts
- Cost allocation – road maintenance & improvement
- Cost allocation – additional law enforcement
- Cost allocation – additional emergency services and equip.
- Cost allocation – additional medical and treatment services
- Cost allocation – additional infrastructure

# Overall, What Are We Trying to Do?

- Identify the scope of the regulatory problem for addressing a complex industry.
- Educate decision-makers on risks and impacts
- Identify the kinds of risks that should be considered in the drafting process
- Suggest the controls and adjustment mechanisms that are possible
- Identify the need for careful review and refinement of the ordinance drafts



Assure the ordinance is well thought out and reflects County values



## In Summary



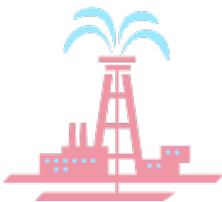
We are dealing with a complex issue

The ordinance must have a huge quantity of detail

Needs care to plug all the loopholes



It's more important to do it right than to do it quickly



We should minimize the negative impacts that offset benefits



Questions?

Comments?

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