PROPOSED ORDINANCE TO BAN HYDRAULIC FRACTURING
Zoning Code Amendment ZCA14-0002

Butte County Planning Commission
October 23, 2014
Background

- Water Commission -- January 15, 2014
- Board of Supervisors direction April 8, 2014
- Draft Ordinance released -- October 1, 2014
- Dept of Conservation released interim draft well stimulation regulations -- June 27, 2014
- Second revised regulations—October 9, 2014
- State Regs in effect – July 1, 2015
Current Regulation

- Under existing Butte County Code, a conditional use permit would be required for oil and gas extraction, for both traditional and “fracking” methods
- State has well drilling standards in place (DOGGR)
- Senate Bill 4 (SB4): Existing gas wells, new gas wells, and abandoned gas wells seeking to frack require a permit issued by DOGGR, effective July 1, 2015
WHO REGULATES FRACKING?
A Survey Of The Agencies Responsible for Well Stimulation in California

DOGGR: The Division of Oil, Gas & Geothermal Resources
DOGGR oversees the drilling, operation, maintenance, plugging and abandonment of oil, natural gas, and geothermal wells. Until 2014, DOGGR’s fracking regulations focused on well integrity and did not address the additional challenges associated with the use of high volumes of water and toxic chemicals.

Passed in 2014, SB 4 directs DOGGR to work with the following agencies to regulate fracking:

California Air Resources Board
is developing guidelines in accordance with SB4 to maintain air quality and protect public health from exposure to air contaminants from the drilling process.

California Water Resources Control Board
will develop groundwater monitoring criteria that will gauge water quality and discharge restrictions, as a result from drilling practices.

California Dept on Resources, Recycling and Recovery
regulates and manages flowback fluids, disposal runoff, and wastewater treatment from drilling activities.

California Department of Toxic Substances Control
regulates the generation, handling and treatment of hazardous fluids brought up through the drilling process are regulated under the DTSC.
Natural Gas Wells in Butte County

- No existing or proposed “fracking” projects
- 26 natural gas wells in production
- No new permits for oil or gas extraction in over 25 years.
- Approximately 200 abandoned gas wells in Butte County.
Wild Goose Storage, LLC

- Underground natural gas storage facility since 1998
- Stores natural gas in depleted reservoirs and maintains 17 wells for storage of natural gas and 4 monitoring wells near Butte Creek
- Unequivocal that it does NOT use hydraulic fracturing
- Fracking would be “extremely detrimental to natural gas storage operations as it could affect reservoir and well bore integrity”
Wild Goose Storage, LLC
Brief Overview of Concerns

- Water Usage
- Subsidence and Withdrawal-related Impacts
- Water Contamination
- Increased Seismic Activity
- Air Pollution
- Agricultural Conversion
Water Usage

• Average fracked well in California used 166,714 gallons of water in 2012, per DOC
• 127,127 gallons per well in 2013 per Western States Petroleum
• 95% of water will never be suitable for (non-industrial) use again
Subsidence & Withdrawal Impacts

Water withdrawals impact groundwater quality through various means including:

- Causing land subsidence,
- Mobilizing naturally occurring substances,
- Promoting bacterial growth,
- Mobilizing lower quality water from surrounding areas,
- Can reduce the ability to dilute existing pollutant sources, such as wastewater discharges.
Water Contamination

Can occur through a variety of mechanisms:

- Well casing failures,
- Abandoned well leaks,
- Natural underground fractures that leak into groundwater sources,
- Mismanagement of produced water by dumping,
- Leakage from storage areas, or
- Spills
State Water Project at Lake Oroville
Increased Seismic Activity

• Half of all 4.5 magnitude or above earthquakes in past decade may have been induced by injection of water into the earth.
• In Butte County, the Cleveland Hills fault runs near the Oroville Dam
• No site-specific information is available detailing how the State Water Project at Lake Oroville might respond to fracking-induced earthquakes
Air Pollution

• Primarily from release of toxic chemicals, increased trucking, and refining/processing the oil produced
• From hundreds of chemicals, potentially including endocrine disrupters, highly corrosive acids, and carcinogens
• Refineries produce benzene, CO2, VOCs, and NOx, other chemicals
Agricultural Conversion

- If fracking were allowed in the County, agricultural lands could be affected directly by drilling, or indirectly via impacts to groundwater.
- Contamination of ground water for any reasons in the County’s agricultural lands would create a hardship on farmers, ranchers, and the County’s agricultural production.
Ordinance Ban:

- Prohibits well stimulation treatments in all zones
- Prohibits disposal or storage of well stimulation byproducts in all zones
- Continues to allow underground natural gas storage at Wild Goose Storage, LLC.
- Could allow oil and gas extraction, including reinjection wells for natural gas, with CUP in AG, AS, TM and TPZ zones
‘Acidizing’ Defined

“Any well stimulation treatment that uses, in whole or in part, the application of one or more acids, at any pressure, to an underground geologic formation with the intent to cause or enhance the production of oil, gas, or other hydrocarbon substances from a well. Acidizing may include, but is not limited to, processes known as acid fracturing and acid matrix stimulation.”
‘Hydraulic Fracturing’ Defined

“Any well stimulation treatment that, in whole or in part, includes the pressurized injection of hydraulic fracturing fluid or fluids, which may include a mixture of water, sand, or chemicals into an underground geologic formation in order to fracture, or with the intent to fracture, the formation, thereby causing or enhancing the production of oil, gas, the other hydrocarbon substances from a well.”
‘Well Stimulation’ Defined

“Well Stimulation” is defined as any treatment or process of a well designed to enhance oil, gas, or other hydrocarbon substance production or recovery by increasing the permeability of the underground geologic formation. Well stimulation treatments include, but are not limited to, hydraulic fracturing and acidizing. Well stimulation treatments do not include routine maintenance work or other routine activities that do not affect the integrity of a well or the underground geologic formation.”
No Storage of Byproducts

“no well stimulation byproducts of any form or of any nature may be stored in, or disposed of, in the boundaries of Butte County.”
GENERAL PLAN

Several Goals and Policies support adoption of the proposed Ordinance:

• LU-P1.6 The County shall conserve important habitat and watershed areas, while protecting the public safety of County residents

• Goal W-1 Maintain and enhance water quality.
GENERAL PLAN

• Goal W-2 Ensure abundant & sustainable water supply to support all uses in County
• Policy W-P2.3 Water resources shall be planned and managed in a way that relies on sound science and public participation
• Goal W-3 Effectively manage groundwater resources to ensure a long-term water supply for Butte County.
GENERAL PLAN

• Goal AG-1 Maintain, promote and enhance Butte County’s agriculture uses and resources, a major source of food, employment, and income to Butte County.
• Goal AG-2 Protect Butte County’s agricultural lands from conversion to non-agricultural uses
• Goal HS-6 Reduce risks from earthquakes
• Goal HS-10 Avoid subsidence from groundwater withdrawal
Comment Letters

- Letters are Part of Administrative Record forwarded to BOS for action on the Ordinance.
- PC Resolution provides additional findings including: local conditions and potential harm to those conditions (pgs 3-6), and reduced property values (pg 6 6th recital).
- Uncertainty over SB4 effectiveness is reflected in Reso and Agenda report.
## Exhibit 4-4
Direct Activity of Oil and Gas Industry
Butte County 2012

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<th>Code</th>
<th>Industry</th>
<th>Employment</th>
<th>Labor Income ($ millions)</th>
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<td>Oil and gas extraction</td>
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<td>213112</td>
<td>Support activities for oil and gas operations</td>
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<td>Natural gas distribution</td>
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<td>23712</td>
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<td>Oil and gas field machinery and eqmt mfg</td>
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<td>486</td>
<td>Pipeline transportation</td>
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**TOTAL DIRECT ACTIVITY**
726 $73.8
Changes to Ordinance from Comments Letters

Wild Goose Letter
  • Definitions in sections 10 and 13 were amended to clarify that routine maintenance is not prohibited. The examples of routine maintenance in section 13 were expanded and mirror SB-4.

BEC Letter
  • Findings were amended: n and p (new).

Stellar Letter
  • CEQA exemption added to finding “aa”
  • Section 10 amended to note that County is prohibiting, not merely regulating, fracking.
Concurrent Efforts to Ban/Regulate

- June 2016 ballot initiative in Butte County
- November 4, 2014 ballot initiative in Mendocino, Santa Barbara, and San Benito Counties
- Ban in effect in City of Beverly Hills and Santa Cruz County
- Many cities, counties and districts in California have taken action to support a ban on fracking
Summary of Findings

- Based on available evidence, fracking may cause environmental harm to land, air, and water resources.
- No federal regulation
- SB4 regulations not yet in effect
- Not compatible with existing County land uses
- Not consistent with Butte General Plan
- Butte County’s residents, and its vast water and agricultural resources, are too important to expose to potential contamination
Recommendation:

That the Planning Commission adopt the Revised Resolution:

• Finding the Ordinance exempt from the California Environmental Quality Act (CEQA), and
• Recommending that the Board of Supervisors adopt the Ordinance, as revised, to Ban Hydraulic Fracturing