



MEMORANDUM

TO: CITY COUNCIL

FROM: STEVEN ADAMS, CITY MANAGER SA

SUBJECT: CONSIDERATION OF REQUEST TO SEND LETTER TO THE SAN LUIS OBISPO COUNTY BOARD OF SUPERVISORS IN OPPOSITION TO HYDRAULIC FRACTURING IN SAN LUIS OBISPO COUNTY

DATE: FEBRUARY 25, 2014

RECOMMENDATION:

It is recommended the Council provide direction to staff on whether to prepare a letter for signature by the Mayor to the San Luis Obispo County Board of Supervisors in opposition to hydraulic fracturing ("fracking") in San Luis Obispo County.

IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

There is no impact to financial or personnel resources from this action unless staff is requested to provide research and a recommendation, which would require substantial staff time and is not a Critical Needs Action Plan item.

BACKGROUND:

At the January 28, 2014 meeting, Council Member Barneich requested, and the City Council agreed, to place an item on a future Council Meeting agenda to discuss whether to send a letter to the San Luis Obispo County Board of Supervisors in opposition to fracking in the County of San Luis Obispo. The item was in response to a request from Kevin McCarthy, who represents Arroyo Clean Water Advocates (ACWA).

The request was to send a letter similar to one sent by the City of San Luis Obispo. A copy of their letter is provided in Attachment 1.

ANALYSIS OF ISSUES:

Hydraulic fracturing is the fracturing of rock by a pressurized liquid. Induced hydraulic fracturing or hydrofracturing, commonly known as fracking, is a technique in which typically water is mixed with sand and chemicals, and the mixture is injected at high pressure into a wellbore to create small fractures along which fluids such as gas, petroleum, uranium-bearing solution and brine water may migrate to the well. Hydraulic pressure is removed from the well, then small grains of sand and aluminum

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oxide hold these fractures open once the rock achieves equilibrium. The technique is very common in wells for shale gas, tight gas, tight oil, and coal seam gas and hard rock wells.

Nearly all natural gas extraction today involves fracking. Proponents of this technique point to the economic benefits from the vast amounts of formerly inaccessible fuels the process can extract, which has been instrumental in increasing energy independence in the United States. Opponents point to environmental risks, including contamination of ground water, depletion of fresh water, contamination of the air, noise pollution, the migration of gases and hydraulic fracturing chemicals to the surface, surface contamination from spills and flow-back, and potential increases in earthquake activity.

However, there is substantially varying positions regarding the safety of fracking and staff found it difficult to find impartial studies. The Environmental Protection Agency (EPA) is currently preparing an extensive study on fracking at the request of Congress, but it is not yet complete. Fracking is not currently allowed within the city limits of Arroyo Grande. Staff does not have the expertise to provide an adequate analysis and/or recommendation on this topic. Attached is a copy of information provided by ACWA.

ALTERNATIVES:

The following alternatives are provided for the Council's consideration:

1. Direct staff to prepare a letter to the County of San Luis Obispo Board of Supervisors identical to the letter sent by the City of San Luis Obispo;
2. Direct staff to prepare a letter with different content;
3. Direct staff to prepare a letter in support of fracking;
4. Delay action until the EPA study is complete;
5. Do not take any action on the request; or
6. Provide staff direction.

ADVANTAGES:

The letter would express concerns to the Board of Supervisors to help prevent the potential negative environmental impacts from fracking.

DISADVANTAGES:

The letter would take a position on an issue that does not appear to have a direct impact on the City of Arroyo Grande. Elimination of fracking practices would ultimately have a negative impact on the country's energy supply and staff has not been able to provide conclusive evidence regarding its environmental impacts.

ENVIRONMENTAL REVIEW:

No environmental review is required for this item.

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COUNTY BOARD OF SUPERVISORS IN OPPOSITION TO HYDRAULIC
FRACTURING IN SAN LUIS OBISPO COUNTY**

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PUBLIC NOTIFICATION AND COMMENTS:

The Agenda was posted in front of City Hall on Thursday, January 23, 2014 and on the City's website on Friday, January 24, 2014. No comments were received.

Attachments:

1. Letter from the City of San Luis Obispo
2. Fact Sheet Provided by ACWA



city of san luis obispo

from
Kevin
McCarthy

OFFICE OF THE CITY COUNCIL
990 Palm Street ■ San Luis Obispo, CA 93401-3249 ■ 805/781-7119

January 14, 2014

VIA FACSIMILE 805-781-1350

Board of Supervisors
County of San Luis Obispo
County Government Center, Room D-430
San Luis Obispo, CA 93408

Re: Hydraulic Fracturing (Fracking)

Dear Supervisors:

I write on behalf of the City of San Luis Obispo to express our concerns of hydraulic fracturing ("fracking") and its potential environmental effects, including contamination of ground water, depletion of fresh water, risks to air quality, noise pollution, the migration of gases and hydraulic fracturing chemicals to the surface, surface contamination from spills and flow-back, and the health effects of these.

The City of San Luis Obispo's code does not permit drilling within City limits. However, the adverse health and environmental effects of fracking activity in the unincorporated areas are potentially far reaching, as a result of our shared resources, water, air, roadways and fault line. The City Council, on behalf of its citizens, calls on the County Board of Supervisors to take a proactive approach in adopting a countywide prohibition on fracking that protects the health and quality of life of all of our residents.

Thank you for your considerations to this very important issue.

Sincerely,

A handwritten signature in cursive script that reads "Jan Marx".

Jan Marx
Mayor

cc: City Council
Dan Buckshi
Rita Neal

Just the Fracking Facts

Oil companies have been using dangerous technologies to extract oil from California with virtually no oversight. These technologies include injecting toxic chemicals, acids, sand and water deep into the ground to dissolve and break up rock. Today, oil companies are positioning themselves to expand these practices across wide areas of California, putting public health, the environment, and our climate goals at risk.

FRACKING & ACIDIZING: THE BASICS

Hydraulic fracturing, better known as “fracking,” is a well stimulation method used to facilitate the extraction of oil and gas and involves blasting up to millions of gallons of water, mixed with sand and often toxic chemicals, deep into the earth. When fracking breaks up rock formations, it allows otherwise inaccessible oil and gas to flow to the surface. Another unconventional extraction technique called acidizing uses corrosive acids to dissolve rock and release oil and gas. The two techniques can be combined in a process called acid fracturing, or “acid fracking.”

Californians Against Fracking

California League of Conservation Voters

Clean Water Action

Environment California

Earthworks

Environmental Working Group

NRDC

Planning and Conservation League

Sierra Club California

Surfrider Foundation



Using these techniques, oil companies have set their sights on the Monterey Formation, a geological formation consisting of several shales and other so-called “tight” rock types and holding an estimated 13.7 billion barrels of recoverable oil.¹ The main portion of the Monterey Formation covers over 1,700 square miles, and underlays the San Joaquin Valley, the Los Angeles basin, the Santa Barbara Channel, the Santa Maria basin, and more discontinuous areas over at least 15 California counties.

The agency responsible for regulating oil and gas drilling in California, the Division of Oil, Gas, and Geothermal Resources (DOGGR), claimed as recently as 2011 that no significant fracking was happening in California. Their public denial was quickly rebuked, as we found out that fracking and acidizing had actually been taking place in California for decades and without any regulation or tracking by DOGGR. But fracking and acidizing techniques are rapidly changing and come with new potential hazards. Technological changes have facilitated an explosion of drilling, bringing with it new chemical concoctions being injected in many new locations, posing increased threats to human health, wildlife, air, and water.

Fracking and acidizing have been documented in at least 10 California counties— Colusa, Glenn, Kern, Los Angeles, Monterey, Sacramento, Santa Barbara, Sutter, Kings and Ventura. In Kern County, Halliburton estimates that over 50 percent of new oil wells are fracked. The public recently learned that fracking has been taking place offshore and without the knowledge of state regulators. Oil companies have used fracking at least 203 times at six sites in State waters off Long Beach, Seal Beach and Huntington Beach over the past two decades according to the Associated Press. Another investigation revealed that federal agencies gave permission for an oil company to start fracking in the Santa Barbara Channel without environmental review.²

ENVIRONMENTAL & HEALTH CONSEQUENCES

Fracking’s intensive reliance on water competes directly with the needs of 38 million Californians and the largest agricultural industry in the United States. According to the U.S. Environmental Protection Agency, fracking in shale formations could require from 2 to 13 million gallons of water per well.³ In California, estimates for water use for a single fracking event ranges from 80,000 to one million gallons. A single well can be fracked several times, leading to a total water use running into the millions of gallons.⁴ Often, that’s water that never returns to the water cycle, as it’s transformed into a contaminated waste product that is stored in tanks, underground or otherwise removed forever.

Information about the chemicals used in fracking fluids is limited. Fluid manufacturers and users often claim trade secret protections to avoid reporting on quantities and types of all fluid ingredients. From available information, we know fracking and acidizing typically employ toxic chemical cocktails⁵ that can contaminate the water and air, including methanol, benzene, naphthalene and trimethylbenzene. Many of those chemicals are listed as hazardous to human health under the federal Clean Air Act or under California’s Proposition 65. Worksite investigations conducted at fracking sites have documented unsafe levels of silica exposure, which causes a degenerative and irreversible lung disease, due to the use of silica sand in fracking operations.⁶

Fracking can expose people, crops, and wildlife to harm from the fracking chemicals, as well as naturally occurring arsenic, boron, and radioactivity that can be brought back to the surface with fracking flowback fluid. Because DOGGR never regulated fracking, water quality impacts and human health impacts have gone unmeasured in California, but fracking in other states shows that fracking is a human health hazard for both oil and gas field workers and people living near oil and gas fields. Notably, acidizing may involve the injection of large volumes of hydrofluoric and hydrochloric acids. Hydrofluoric acid is extremely toxic and exposure to it can be life threatening, according to the U.S. Centers for Disease Control and Prevention.⁷ Oil and gas companies in California are already injecting tens of thousands of gallons of hydrofluoric and other acids into wells around the state.

Wastewater from oil and gas development has already resulted in contaminated groundwater through surface storage leakage. In 2008, a Kern County farmer was awarded \$8.5 million in compensatory damages for groundwater contamination from oil industry wastewater stored in open pits.⁸ Fracking wastewater is often stored at ground level or injected into waste wells, and is basically taken out of the available water supply for drinking or watering crops because of its high contamination. Notably, earthquakes have been linked to wastewater injection associated with oil and gas operations in other parts of the country. DOGGR has no information available to the public that discusses or tracks the influence that injection wells may have on faults and seismic activity in California.



Wildlife is also at risk from fracking. Fracking comes with intense industrial development, including multi-well pads and massive truck traffic. Producing oil and gas from shale formations can require thousands of wells, requiring multiple routes for trucks, adding habitat disturbance for wildlife and more pollution. More than 100 endangered and threatened species live in the California counties where the Monterey Formation could be exploited on a large scale.

AIR POLLUTION & CLIMATE CHANGE

Air pollution from oil and natural gas production is a serious problem of nationwide scope that currently threatens the health of communities across the country.

The processes and, equally importantly, the products of fracking and acidizing, petroleum and natural gas, contribute to conventional air pollution and greenhouse gas emissions (GHG). In other regions, emissions of volatile organic compounds (VOCs) from oil and gas facilities are causing elevated ozone levels and exposures to toxic pollutants like the carcinogen benzene. One report determined that in a single year, fracking in the U.S. produced at least 450,000 tons of air pollution.⁹ Most California air districts do not monitor fracking pollutants. Communities living close to fracking operations are also exposed to diesel pollution as a result of truck traffic and diesel engines used to operate pumps and drilling equipment. Diesel pollution has been linked to cancer, respiratory and cardiovascular impacts, premature mortality and adverse birth outcomes.

Finally, the oil and gas industry is responsible for a significant amount of methane pollution—a potent greenhouse gas that is 28 times more powerful than carbon dioxide over the long-term. A recent study led by Harvard scientists suggests this industry may be responsible for significantly more methane pollution than EPA and others previously thought.¹⁰ Fracking and acidizing of wells could



allow billions of barrels of oil and cubic feet of gas that were previously considered inaccessible to be produced. If we want to get serious about tackling climate change, we must move off fossil fuels, and turn to truly clean energy sources like wind and solar.

TIME FOR A FRACKING MORATORIUM

Californians need assurance that fracking and acidizing of wells is not going to endanger our health, our environment, or our commitment to fight climate change. The burden must be on the oil companies and regulators to prove that fracking practices in California won't harm the environment and human health. Neither the provisions of Senate Bill 4, which took effect in January 2014, nor the draft regulations released in November 2013 by the state Department of Conservation and DOGGR are adequate to ensure that Californians and their environment will be protected. That is why so many groups and individuals are calling for a moratorium on fracking—to give Californians time to fully assess the risks and how to protect against them.

Endnotes

- 1 "Assumptions to the Annual Energy Outlook 2013: Oil and Gas Supply Module." U.S. Energy Information Administration. 14 May 2013. Web. 5 December 2013. <http://www.eia.gov/forecasts/aeo/assumptions/pdf/oilgas.pdf>.
- 2 Mike Ludwig, Truthout, *More Details on Ocean Fracking Revealed as Environmentalists Challenge Federal Regulators* (October 10, 2013) <http://truth-out.org/news/item/19340-more-details-on-ocean-fracking-revealed-as-environmentalists-challenge-federal-regulators>.
- 3 Western Organization of Resource Councils, "Gone for Good: Fracking and Water Loss in the West." http://www.worc.org/userfiles/file/Oil%20Gas%20Coalbed%20Methane/Hydraulic%20Fracturing/Gone_for_Good.pdf.
- 4 Kiparsky, Michael and Jayni Foley Hein. Regulation of Hydraulic Fracturing in California. Wheeler Institute for Water Law & Policy, U.C Berkeley. April 2013. http://www.law.berkeley.edu/files/ccelp/Wheeler_HydraulicFracturing_April2013.pdf.
- 5 "Dirty Dozen: The 12 Most Commonly Used Air Toxics in Unconventional Oil Development in the Los Angeles Basin." Center for Biological Diversity. 5 September 2013. Web. 5 December 2013. http://www.biologicaldiversity.org/campaigns/california_fracking/pdfs/LA_Air_Toxics_Report.pdf.
- 6 "Worker Exposure to Silica during Hydraulic Fracturing." Occupational Safety & Health Administration. June 2012. Web. 5 December 2013. https://www.osha.gov/dts/hazardalerts/hydraulic_frac_hazard_alert.pdf.
- 7 "Facts About Hydrogen Fluoride (Hydrofluoric Acid)." Centers for Disease Control and Prevention. n.p. 22 April 2013. Web. 5 December 2013. <http://www.bt.cdc.gov/agent/hydrofluoricacid/basics/facts.asp>.
- 8 *Ibid* endnote 3.
- 9 Environment America. "Fracking by the Numbers. Available at: <http://www.environmentamerica.org/reports/ame/fracking-numbers>.
- 10 Miller, S. M., Wofsy, S. C., Michalak, A. M., Kort, E. A., Andrews, A. E., Biraud, S. C., ... & Sweeney, C. (2013). Anthropogenic emissions of methane in the United States. *Proceedings of the National Academy of Sciences*, 201314392.

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