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**Seyed Sadredin**  
Executive Director  
Air Pollution Control Officer

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Northern Region Office  
4800 Enterprise Way  
Modesto, CA 95356-8718  
(209) 557-6400 • FAX (209) 557-6475

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Central Region Office  
1990 East Gettysburg Avenue  
Fresno, CA 93726-0244  
(559) 230-6000 • FAX (559) 230-6061

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Southern Region Office  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
(661) 392-5500 • FAX (661) 392-5585

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February 1, 2013

The Honorable Fran Pavley  
Senator, 27<sup>th</sup> District  
Chair, Senate Committee and Natural Resources and Water

The Honorable Michael Rubio  
Senator, 16<sup>th</sup> District  
Chair, Senate Committee on Environmental Quality

Re: Your January 22, 2013 letter to Chairman Barwick concerning District authority with respect to regulating hydraulic fracturing in oil and gas production

Senators Pavley and Rubio:

Thank you for the above referenced letter. We understand that a joint legislative information hearing to be held in the State Capitol on February 12, 2013. The District will make every effort to have the appropriate staff attend the hearing.

Below is a summary of each question, and the District's response.

Question 1:

What is the District's existing statutory and regulatory authority to regulate air quality?

Response 1:

Regulatory authority under the Federal Clean Air Act is bifurcated between USEPA and the states. EPA typically has authority over mobile sources air pollution while the states have the primary authority to regulate stationary sources. However, in recognition of California's longstanding air pollution regulatory scheme, Congress preserved California's authority to set tailpipe standards.

Thus, California's regulatory structure is unique in that it divides its regulatory authority between the state Air Resources Board and the local air districts. Under this scheme, the state regulates mobile sources of air pollution while the local air districts are given the primary authority over stationary sources. Accordingly, under both state and federal law, the authority to regulate stationary air pollution sources is vested in the local air districts.

Question 2:

Can you explain how the ARB and local air districts share authority over hydraulic fracturing emissions, including

- emissions during transport of hydraulic fracturing fluids to oil and gas fields?
- emissions of volatile components from hydraulic fracturing fluids or naturally-occurring hydrocarbons during the hydraulic fracturing process at the well-head (including fugitive emissions), subsequent production of the well, and wastewater disposal?

Response 2:

While we are not aware of any hydraulic fracturing used in natural gas production well development in the San Joaquin Valley, fracturing has been used for at least thirty years in oil production operations, without creating known air issues, beyond those associated with other production methods.

Hydraulic fracturing fluids, along with the equipment used in the hydraulic fracturing operations, are transported using on-road heavy duty diesel trucks to the well location. The distances traveled vary, but can range from a few miles to 50 miles or more. These trucks are licensed to operate on public roads and are registered with the state. Emissions from on-road diesel IC engines are regulated by the United States Environmental Protection Agency (EPA) and California Air Resources Board (CARB). Mobile tanks used to transport hydraulic fracturing fluids (such fluids consists mainly of water with relatively small amounts of chemicals that may be volatile organic compounds) are exempt from District permitting requirements, but may be regulated by the California Air Resources Board.

At the well location, a variety of “portable” equipment is used in the hydraulic fracturing operation – the most significant source of emissions being diesel IC engines used to power hydraulic fracturing fluid pumps. Typically, such IC engines are registered as portable equipment with CARB or the District and are subject to CARB’s Air Toxic Control Measure for portable diesel IC engines. The District enforces CARB’s portable equipment registration and the CARB regulation for sources that operate in the District.

Portable tanks may be used to capture fluids that flow back out of the hydraulically fractured well for a short period of time. These portable tanks are exempt from permits, but any longer-term tankage associated with the oil production operation requires permits. These permitted tanks are generally required to be controlled (for liquids with True Vapor Pressure greater than 0.5 psia).

Fugitive PM10 emissions associated with the preparation of the well site are regulated by District Regulation VIII – Fugitive PM10 Prohibitions. This regulation requires fugitive PM10 minimization requirements for certain site preparation.

The District has various rules that require the minimization of emissions from oil and gas production operations, i.e. after the drilling and possible hydraulic fracturing operations.

These rules are targeted at reducing volatile hydrocarbon emissions (including fugitive emissions) from the production and handling of crude oil, associated gas, and wastewater. The rules applicable to oil and gas production operations include:

Rule 2010 – Permits Required – requires a Authority to Construct and Permit to Operate for equipment that may be the source of air contaminant emissions. Much of the equipment associated with oil production requires permits.

Rule 2020 – Exemptions – provides exemptions from the requirement to obtain an Authority to Construct and Permit to Operate for equipment and operations with a de minimis level of emissions.

Rule 2201 – New and Modified Stationary Source review – requires installation of best available control technology and emission offsets for new or modified equipment that requires an Authority to Construct pursuant to Rule 2010.

Rule 4401 – Steam Enhanced Crude Oil Production Wells – requires the capture and control of VOC emissions from existing and new steam enhanced wells.

Rule 4402 – Crude Oil Production Sumps – requires the capture and control or replacement with tanks of sumps used to store certain produced fluids.

Rule 4409 – Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities – requires the inspection and maintenance of fugitive components associated with the light oil and gas production and gas processing facilities.

Rule 4623 – Storage of Organic Liquids – requires the capture and control of VOC emissions from certain tanks storing produced fluids, i.e. crude oil and produced water.

US EPA 40 CFR 60 Subpart OOOO - Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (constructed, reconstructed, or modified after 8/23/11) has requirements for the collection and control of gasses from hydraulically fractured natural gas wells, and other requirements. This regulation does not apply to wells that are hydraulically fractured that produce oil and associated gas – as is common in the District. While the northern part of the District has some natural gas wells, these wells are not in a producing formation that is susceptible to hydraulic fracturing. As such, this regulation has no impact on hydraulic fracturing operations in the District.

Question 3:

Are emissions from hydraulic fracturing and related operations continuously regulated during the hydraulic fracturing lifecycle? If not, describe statutory and regulatory gaps in authority.

Response 3:

As discussed in response 2 above, on site emissions from the major equipment associated with hydraulic fracturing, i.e. diesel IC engines, is regulated through CARB or District portable equipment registration, and state Air Toxic Control Measures.

VOC (volatile hydrocarbon) emissions emanating from tankage used in oil production operations are required to be controlled except at very low vapor pressures, and fugitive emissions from oilfield components are generally required to be controlled by inspection and maintenance programs. Again, small portable tankage that is used for less than 6 months is exempt from permitting and control requirements.

Question 4:

How are emissions from hydraulic fracturing and related operations monitored on a routine basis? Are the data generated readily available to the public? What inspection, auditing and enforcement does the district currently perform related to these operations?

Response 4:

As stated above, emissions from the hydraulic fracturing operation itself are not monitored. However, the operation of the IC engines used to power the hydraulic fracturing is monitored by the operator pursuant to its portable equipment registration. As part of the state program these units have to meet fleet emissions limits. Registered portable engines are inspected by District staff for compliance with registration requirements and the state's Portable Equipment Registration Program rule.

Question 5:

Was the district consulted in the development of DOGGR's proposal for draft hydraulic fracturing regulations?

Response 5:

DOGGR has not contacted the District concerning its draft hydraulic fracturing regulation.

Question 6:

In your opinion, are SJVAPCD's existing statutory authority and regulations sufficient to mitigate risks to air quality from hydraulic fracturing? If not, what changes are necessary?

Response 6:

Hydraulic fracturing in the south valley's oil production areas has occurred for over 30 years with no identified concerns to date regarding air quality other than those associated with other production methods. The District is not aware of any hydraulic fracturing in the San Joaquin Valley used for direct natural gas production. The differences inherent in these processes, and the high degree of air pollution control in the San Joaquin Valley means that emissions problems associated with hydraulic fracturing in the eastern United States have not occurred here.

The magnitude of emissions associated with hydraulically fracturing wells in the District is thought to be small due to the oil bearing formations lacking unassociated natural gas and due to the short duration of hydraulic fracturing activities for wells located in the District. However, to our knowledge no studies have been published that have quantified "typical" emissions from such short-duration hydraulic fracturing of oil and associated gas wells. Research targeted on providing that information would be of benefit in establishing whether permitting requirements should be revised.

I thank you for your continued interest in air quality issues in the San Joaquin Valley, and am happy to provide information concerning the District's extensive air pollution control activities. If you have any additional questions, please do not hesitate to contact me at (559)230-6036.

Sincerely,



Seyed Sadredin  
Executive Director/APCO