

South Coast Air Quality Management District

QUESTION 1:

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

The South Coast Air Quality Management District was created by statute in 1977 and consists of the South Coast Air Basin, parts of the Salton Sea Air Basin and parts of the Mojave Desert Air Basin. Local air districts, including the South Coast, have primary responsibility for the control of pollution from all sources except motor vehicles. California Health & Safety Code § 40000.¹ The California Air Resources Board has primary responsibility for the control of pollution from motor vehicles. *Id.*

In addition, the Air Resources Board is responsible for adopting state ambient air quality standards for California and monitoring the regulatory activity of California's 35 local air districts. § 39606. Pursuant to section 40001, all districts are required to adopt and enforce rules to achieve and maintain the state and federal ambient air quality standards in all areas affected by emissions sources under their jurisdiction. In addition, section 40440 requires the South Coast to adopt rules to carry out a plan that is designed to achieve the state standards by the earliest date achievable. Under state law, the Air Resources Board is responsible for preparing those portions of the plan that deal with technological vehicular source control strategies, § 40460(c), while the South Coast prepares the portions related to air quality, emissions data, air quality modeling, and stationary source control measures. *Id.* Once the plan is complete, the District submits the plan to the Air Resources Board who, after approval, submits the plan to EPA as part of the State Implementation Plan if it finds it meets the requirements of the Federal Clean Air Act and is adequate to attain state ambient air quality standards. § 40469(a).

While the District is required to adopt rules to implement the plan, the District is not limited to rules set out in its plan but may adopt any rule within its statutory authority. § 40442. In addition to adopting "command and control" requirements – rules that specify the emission limit the source or product must meet – the District can also require the owner or operator of a source to take such action that is reasonable for the determination for the amount of the source's emissions. §§ 40701, 41511. For each rule, the District must prepare an analysis of existing federal and District regulatory requirements applicable to the same type of source. § 40727.2. Prior to adopting the rule, the Board must make findings of necessity, authority, clarity, consistency, nonduplication and reference. § 40727.

The District also has authority to regulate emissions of toxic air contaminants from nonvehicular sources regardless of whether the state has identified a substance as an air toxic. *WOGA v. Monterey Bay Unified APCD*, 49 Cal.3d 408 (1989). In addition, air districts implement the Air Toxics "Hot Spots" Act, which requires stationary sources to report the types

¹ Unless otherwise noted, all references are to the California Health and Safety Code.

and quantities of certain substances routinely released into the air. § 44300 *et seq.* The purpose of the Air Toxics “Hot Spots” Act is to collect emissions data, identify facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks and reduce those significant risks to acceptable levels. *Id.*

QUESTION 2:

Can you explain how the Air Resources Board and local air districts share authority over hydraulic fracturing emissions,

- **including emissions during transport of hydraulic fracturing fluids to oil and gas fields?**

Because the Air Resources Board has primary responsibility for the control of pollution from motor vehicles and the authority to regulate motor vehicle fuel, regulating exhaust emissions generated from vehicles transporting hydraulic fracturing fluids would fall under the Air Resource Board’s authority. §§ 40000, 39667, 43840, 43700 *et seq.*, 43013. Off-road equipment² and on-road vehicles are required to meet specific engine exhaust emission limits based on applicable Tier standards pursuant to state and federal regulations for off-road equipment and on-road vehicles. State and federal regulations include requirements for new and in-use equipment.

In addition, SCAQMD’s Rule 403 regulates fugitive dust emissions that result from movement of motorized vehicles. Therefore, the transport of hydraulic fracturing fluids may also be subject to District Rule 403.

- **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?**

Regulating emissions resulting from the hydraulic fracturing process, including emissions from hydraulic fracturing fluids, emissions of hydrocarbons from hydraulic fracturing, emissions from subsequent production of the well, and emissions from wastewater disposal, would all fall under the South Coast’s authority to regulate stationary sources. § 40000. As discussed in more detail below, although potential air emissions from activities associated with oil and gas well drilling, well completions, and well reworks are not adequately regulated by existing AQMD rules, several District regulations currently regulate various aspects of oil and gas

² In 1988, the Air Resources Board was given authority to adopt regulations for certain off-road or nonvehicular engine categories. § 43013(b). Because there is no language in the statutes that expressly removes the District’s authority to regulate these nonvehicular sources, air districts retain concurrent authority with the Air Resources Board over these sources. *See WOGA v. Monterey Bay Unified APCD*, 49 Cal.3d 408 (1989) (holding that the legislature does not impliedly repeal district authority absent “undebatable evidence”); Manaster & Selmi, *California Environmental Law and Land Use Practice*, §41.06(2).

production wells, including fugitive emissions of volatile organic compounds and volatile organic compounds emissions from wastewater systems.

With specific respect to toxic air contaminants, both the Air Resources Board and the District have authority to regulate such contaminants. The Air Resources Board has the statutory responsibility of identifying such contaminants, following recommendations by the state Office of Environmental Health Hazard Assessment and the state-appointed Scientific Review Panel. § 39662. Once such contaminants are identified, the Air Resources Board must adopt airborne toxic control measures (ATCMs) for such pollutants. The air districts must implement and enforce ATCMs within 120 days of their adoption unless they adopt and implement an equally effective or more stringent measure within six months. § 39666. Accordingly, air districts have authority to adopt toxic control measures for sources within their jurisdiction, and the state law does not preempt such authority. *Western Oil & Gas Ass'n v. Monterey Bay Unified APCD*, 49 Cal.3d 408 (1998).

QUESTION 3

Are emissions and potential emissions from hydraulic fracturing and related operations continuously regulated during the hydraulic fracturing lifecycle? If not, describe statutory and regulatory gaps in authority. Please describe the basis for the district's proposed rule 1148.2.

Potential emissions are not continuously regulated throughout the hydraulic fracturing lifecycle. Current SCAQMD rules focus on emissions AFTER the well has been completed, and regulate VOC emissions from production activities such as well cellars, valves and flanges, storage tanks, etc. There are potential emission sources that occur during hydraulic fracturing that the SCAQMD staff investigating:

- Particulate matter emissions from preparation of the hydraulic fracturing fluid; and
- VOC and possibly toxic emissions from flowback fluids that return from the well to the surface.

Particulate Matter Emissions from the Preparation of the Hydraulic Fracturing Fluid

Preparation of the fluids used in well completion techniques, including hydraulic fracturing, can involve onsite mixing of proppants with the base fluid, and may result in potential particulate matter emissions. Proppants/sand are commonly delivered by trucks and loaded into sand movers. The proppant is transferred by a conveyer belt and into hoppers where it is mixed with well completion fluids prior to being injected down the well. Fugitive dust may be released at hatches and ports of the sand movers during refilling operations, and from the transfer between open conveyor belts and transfer points. As much as 300,000 lbs of proppant can be used for each stage of hydraulic fracturing. Most hydraulic fracturing includes multiple stages and depends on the depth of the well. Common materials used for proppants include ceramic beads, resin-coated sand, and silica sand.

The National Institute for Occupational Safety and Health has identified exposure to airborne respirable silica as a health hazard to workers conducting some hydraulic fracturing operations. Breathing silica can increase the risk of lung cancer and other diseases such as silicosis,

tuberculosis, and kidney and autoimmune diseases. Although SCAQMD Rule 403 addresses fugitive dust, the rule's intent is to control fugitives from open storage piles, earth-moving activities, construction/demolition activities, disturbed surface areas, and vehicular movement. SCAQMD Rules 404 and 405 also relate to the control of particulate matter emissions, however, set concentration and mass emission rate limits that can only be tested by source testing of point sources where there is a stack; and are not designed or intended to reduce emissions from fugitive sources. Therefore, there are no existing SCAQMD regulations that specifically addresses particulate matter emissions from the preparation of hydraulic fracturing fluids.

Proposed Rule 1148.2 will require owners and operators to report the amount of dry materials used in well completion fluids such as hydraulic fracturing, how dry materials are mixed into hydraulic fracturing fluids, and air pollution controls, techniques, devices, and/or practices that owner or operators of oil and gas wells are currently using. This information will help the AQMD staff better quantify and understand the magnitude of potential fugitive dust emissions.

VOC and Possibly Toxic Emissions from "Flowback"

As the hydraulic fracturing fluids come into contact with the formation and hydrocarbon-bearing zones, the resulting flowback may be entrained with a variety of formation materials, including brines, heavy metals, radionuclides, and organics. This is in addition to the chemical additives originally injected during the hydraulic fracturing used to prepare fracture the formation.

Flowback that returns to the surface and comes into contact with the atmosphere has the potential to emit organic compounds and hazardous or toxic air pollutants depending on how it is collected, handled, transported, and stored. At this time, it is not clear how the flowback associated with hydraulic fracturing events are dealt with at oil and gas wells in the South Coast Air Basin. SCAQMD Rule 1176 may apply to the handling of flowback, as the rule sets forth requirements for wastewater that is stored or collected in sumps that are a part of a facility's wastewater system. However, if there is no existing wastewater collection, storage, and treatment system for hydraulic fracturing fluids, SCAQMD Rule 1176 does not apply. Therefore there is no existing SCAQMD rule for oil and gas field facilities that require collection, storage, and treatment of flowback wastewater if not part of the production process.

The basis for Proposed Rule 1148.2 is to gather air quality-related information on oil and gas well drilling, completion (including hydraulic fracturing), and rework activity in order to identify the magnitude and type of emissions associated with these operations. The rule will additionally allow SCAQMD staff to gather information on what air pollution control techniques, if any, are used during the referenced activities. Lastly, PR 1148.2 requires posting of the amounts of chemicals used in hydraulically fractured wells so that the public is aware of the types and amounts of chemicals used.

QUESTION 4

How are emissions and potential 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?

Although equipment, such as internal combustion engines used to generate power for mixing and pumping hydraulic fracturing fluids, may be certified pursuant to federal and state regulations, the SCAQMD does not monitor emissions from hydraulic fracturing. Although oil and gas wells are registered under the AQMD's Rule 222, there currently is no mechanism for the AQMD staff to know when an owner or operator will hydraulically fracture a well. Proposed Rule 1148.2 requires owners and operators of oil and gas wells to notify the AQMD staff when they will be conducting such activities. This will allow the AQMD staff to begin tracking these events and conduct emissions sampling and air quality monitoring. Inspection and enforcement of hydraulically fractured wells would occur if they happen to be occurring during routine compliance inspections or as a result of odor complaints.

QUESTION 5

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

The District was not consulted in the development of DOGGR's proposal for hydraulic fracturing. However, since the initiation of rule development for PR 1148.2, District staff has coordinated with DOGGR staff to ensure that our two proposals are consistent and do not overlap. PR 1148.2 focuses on potential air emissions from drilling, well completions (including hydraulic fracturing), and reworks (deepening and redrilling of wells). The Discussion Draft released by DOGGR on December 18, 2012 includes DOGGR's response regarding if hydraulic fracturing will not contaminate the air. DOGGR acknowledges in the Discussion Draft that various air quality control districts such as the SCAQMD are evaluating the need for regulations to address fugitive air emissions associated with hydraulic fracturing.

QUESTION 6

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

The District believes that its existing statutory authority is adequate to mitigate the risks to air quality from hydraulic fracturing. The District has authority to adopt proposed Rule 1148.2, the purpose of which is to collect information from oil and gas field production facilities to be quantify potential air emissions from well development activities including drilling, well completion, and well reworks. §§ 39002, 40000, 40701, 40702, 40725 through 40728, 41508, 41511, and 41700.

The proposed rule is the first step of a two-step approach. The second step will include a report to the Governing Board on the information collected in which District staff will seek guidance from the Governing Board regarding whether staff should continue with data collection and notification and/or develop new requirements to reduce emissions from oil and gas well drilling, well completion and well reworks. Should the Governing Board direct staff to develop a rule to mitigate the air quality risks from hydraulic fracturing, for all the reasons discussed above the District will have the authority to adopt such a rule under its existing statutory authority. §§ 39002, 40000, 40702, 40725 through 40728, 41508, 41700.