GOLDEN GATE UNIVERSITY School of Law

Environmental Law and Justice Clinic

March 27, 2012

Carol Lee
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Dear Ms. Lee:

The Bay Area Environmental Health Collaborative (BAEHC) is a coalition of environmental and community groups that has been working to reduce air-related health risk in Bay Area communities with disproportionate air pollution. The Environmental Law and Justice Clinic (ELJC) provides technical assistance to BAEHC in these efforts. This letter is being submitted on behalf of BAEHC to comment on the Bay Area Air Quality Management District's (Air District's) proposal to amend Regulations 2-1 (General Requirements) and 2-2 (New Source Review).

According to the Air District's Workshop Report, the objective of the rule amendments is to obtain an approved State Implementation Plan for the District's New Source Review (NSR) and Prevention of Significant Deterioration (PSD) programs to protect public health and welfare from the impacts of criteria pollutant and greenhouse gas emissions. Although the proposed revisions will make a variety of important changes to the rules, BAEHC is concerned that the Air District has neglected to ensure that communities living in close proximity to new or modified point sources of criteria air pollutants will be adequately protected. Specifically, BAEHC is concerned that District staff have not reevaluated the long list of permit exemptions that have been provided in Regulation 2-1 in the past, and would continue to be allowed in the amended rule. (These exemptions are mostly delineated throughout part 2-1-100.)

In light of the recently increased stringency of several of the National Ambient Air Quality Standards (NAAQS), Air District staff should review these exemptions to determine whether they are still acceptable from a public health perspective. This is especially important with regard to the federal 24-hour $PM_{2.5}$ standard, given the large health impact that PM pollution has on Bay Area communities, and considering that the region is not in attainment with this standard. In addition, the Bay Area continues to be out of attainment with the California PM_{10} and $PM_{2.5}$ standards.

The list of exemptions in Regulation 2-1-100 includes a general exemption for facilities that emit less than 10 pounds-per-day of a regulated air pollutant. *See* section 2-1-103.3. BAEHC is concerned that this exemption could, in some cases, produce an increase in the number of exceedance days of the 24-hour PM standard at both the "microscale" or "middle-scale" of attainment monitoring.[1]

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[1] Per federal regulations, "microscale" refers to areas ranging from several meters to 100 meters, and "middle scale" refers to areas up to several city blocks in size with dimensions ranging from about 100 to 500 meters. *See* 40 CFR Part 58 Appendix D.1.2.

With regard to demonstrating attainment of the federal $PM_{2.5}$ standard, the U.S. EPA indicates that it is important to consider air quality at these smaller scales, in addition to the more general, neighborhood- or urban- scales of monitoring. For example, according to EPA monitoring guidelines, "Daily compliance sites are used to determine NAAQS compliance for the 24-hour (daily) $PM_{2.5}$ standard…Because a daily compliance site does not necessarily represent community-oriented monitoring [i.e., neighborhood to urban scale monitoring], it may be located near an emitter with a microscale or middle-scale zone of influence."[2] Federal regulations also state that data from, "relatively unique population-oriented microscale, or localized hot spot, or unique population-oriented middle-scale impact sites are […] eligible for comparison to the 24-hour $PM_{2.5}$ NAAQS."[3] These smaller monitoring scales allow the determination of the highest pollutant concentrations, as well as the identification of important point-source impacts.

The above comments are also relevant to pollution sources that mainly emit coarse PM. The federal regulations point out that middle-scale monitoring is important for effectively characterizing PM_{10} exposure: "Monitors located in populated areas that are nearly adjacent to large industrial point sources of coarse particles provide suitable locations for assessing maximum population exposure levels and identifying areas of potentially poor air quality."[4] In addition, these regulations note that microscale monitoring may also be appropriate in some circumstances.

Screening calculations carried out by ELJC for a few possible emission scenarios using EPA's AERSCREEN model indicate that, under the proposed regulations, air quality might be significantly degraded near some exempt PM point sources and medium-sized permitted sources. For example, a small source emitting 10 pounds per day, or a medium source emitting 10 tons per year might each produce maximum 24-hour PM concentrations above the 35 ug/m^3 NAAQS standard for 24-hour $PM_{2.5}$ within about 100 meters of the sources. *See* the accompanying table. Since these concentrations represent the incremental pollution due to a facility, significant air quality impacts could extend beyond 250 meters once ambient background PM concentrations are added to the facility impact.[5]

The technical review materials provided by the Air District for the proposed amendments to Regulation 2-1 and 2-2 do not appear to have looked at these issues. We are therefore requesting that, prior to finalizing the revised regulations, staff re-assess the proposed exemptions and carry out an air modeling study for smaller sources of $PM_{2.5}$ (and PM_{10}) under a variety of scenarios, including: (1) point and area sources that would be exempt under the new regulations, and (2) point and area sources that emit PM at levels high enough to require New Source Review but do not qualify as major sources or PSD projects.

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2 *See* "Guidance for Network Design and Optimum Site Exposure for $PM_{2.5}$ and PM_{10} , Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, December 15, 1997, at page 2-21. Also regarding the meaning of "community-oriented monitoring": "Community-oriented (core) monitoring sites are beyond the zone of influence of a single source, and should have neighborhood- to urban- scale zones of representation. The principal purpose of community-oriented monitoring sites is to approximate the short-term and long-term exposures of large numbers of people where they live, work, and play." Guidance at page 2-13.

3 *See* 40 CFR 58.30 (a)(1). Also note that, "Population-oriented monitoring (or sites) means residential areas, commercial areas, recreational areas, industrial areas where workers from more than one company are located, and other areas where a substantial number of people may spend a significant fraction of their day." 40 CFR 58.1.

4 *See* 40 CFR 58 App. D.4.6.

5 Although the screening was carried out for maximum 24-hour concentrations, the potential $PM_{2.5}$ concentrations are high enough that the 24-hour $PM_{2.5}$ design value could also be exceeded.

Finally, Regulation 2-2 should require non-major sources of air pollution that will be subject to New Source Review to also demonstrate compliance with the NAAQS at the micro- and middle- scale of attainment monitoring.

Best Regards,

/s/

Ken Kloc
Environmental Analyst

Estimated Incremental Air Impacts of PM Emissions from Three Hypothetical Scenarios using the AERSCREEN Dispersion Model *

Release Characteristics	High 24-Hour Average PM Concentration (ug/m^3) at distance in meters±			
	50 m	***100 m***	***250 m***	***500 m***
Small Point Source Emission Rate: 10 lb/day Stack Height / Diameter: 9 m / 0.5 m Exit Velocity: 5 m/sec Exhaust Temperature: 315 deg K Bldg. Dimensions: 30 x 30 x 8 m	42.9	33.6	17.5	4.5
Same as above with capped stack	49.4	35.9	18.4	4.5
Medium Point Source Emission Rate: 10 TPYor 54.8 lb/day Stack Height / Diameter: 15 m / 1.0 m Exit Velocity: 10 m/sec Exhaust Temperature: 315 deg K Bldg. Dimensions: 60 x 60 x 10 m	119.0	41.6	29.5	15.8

* The concentrations reported are only due to the source and do not include ambient background levels.
± The 24-hour averages were estimated from AERSCREEN 1-hour values by multiplying by 0.6.