Santa Barbara County
Air Pollution Control District

Our Vision Clean Air

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Board Agenda Item

TO: Air Pollution Control District Board

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SUBJECT: Air Monitoring Network Update

RECOMMENDATION:

Receive an update on the current and future ambient air monitoring network in Santa Barbara County.

BACKGROUND:

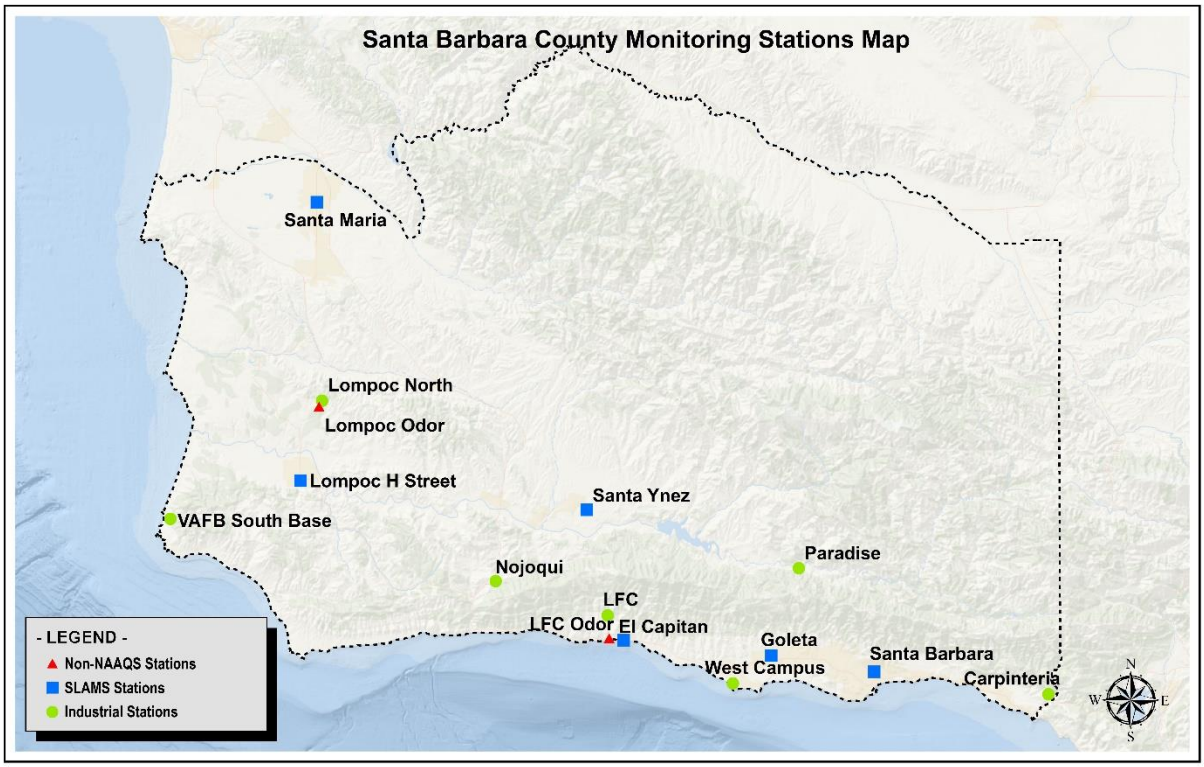
The California Air Resources Board (CARB) and the Santa Barbara County Air Pollution Control District (District) have been monitoring ambient air quality in Santa Barbara County since the 1970s. This was a mandated requirement under the 1970 Federal Clean Air Act. The size of the network expanded in the 1980s in response to a significant expansion of oil and gas activity in the county. There are three categories of monitoring stations operated throughout the region:

1. **SLAM stations:** Monitoring stations operated pursuant to Federal Clean Air Act requirements are referred to as State and Local Air Monitoring Stations, or "SLAMS," and are required in order to demonstrate compliance with the state and national ambient air quality standards (NAAQS).

2. **Industrial stations:** The air quality impacts of industrial projects triggered the requirement to install and operate ambient air monitoring stations pursuant to District New Source Review rules and District permits. These monitoring stations are referred to as "Industrial" stations. Most of these stations measure ozone and particulate matter; some of the stations also measure other pollutants such as nitrogen dioxide and carbon monoxide.

3. **Non-NAAQS stations:** Some of these pollutant monitors are operated for District purposes, but are not required under the Federal Clean Air Act. These pollutant monitors are called "non-NAAQS" monitors, because they are not required to meet state and federal standards.

The current monitoring network, depicted in the map below, consists of 15 ambient air monitoring stations. Currently, there are six SLAMS, seven Industrial stations, and two non-NAAQS stations.



Operation of the District's air monitoring network involves coordination with multiple agencies including the U.S. Environmental Protection Agency (EPA), CARB, and the District. The EPA has several roles, which include:

- Establishing sampling methods for the specific pollutant monitoring equipment,
- Providing guidelines for where to locate monitors and how they should be set up, operated, and tested,
- Reviewing and approve the monitoring network on an annual basis, to ensure that it is adequate to meet federal requirements, and
- Providing grant funding to operate the monitoring stations.

Currently, CARB operates the Santa Barbara and Santa Maria monitoring stations in the County. CARB also provides quality assurance oversight of the monitoring stations, including equipment audits.

The District operates several of the monitoring stations, performs quality assurance review of measured data, and transmits the data to the EPA. The District also coordinates with regulated sources and their consultants to ensure that monitoring requirements are met for the stations not operated by the District. Every year, we compile the air quality data from these stations in an annual report, which is available on our website: www.ourair.org/sbc/annual-air-quality-report.

Santa Barbara County has a robust ambient air monitoring network that is larger than other areas of similar geographic size in California. Chapter 40, part 58 of the Code of Federal Regulations (CFR) sets minimum monitoring requirements based on the size and population of the area. Every year, the District submits an Annual Air Monitoring Network Plan to the EPA to demonstrate compliance with these regulations. The Santa Barbara County network meets and exceeds the minimum requirements (e.g., number of stations, specific pollutants measured). A copy of this plan can be found on our website: www.ourair.org/air-monitoring.

DISCUSSION:

In 2017, the District, EPA and CARB discussed various options for changing the monitoring network to maximize resources, optimize monitor locations, and continue to provide the necessary monitoring for the community. CARB has quality assurance/quality control (QA/QC) oversight for monitoring stations to ensure that the data meets the requirements for comparison to National Ambient Air Quality Standards (NAAQS). Due to the large number of stations in the county, CARB was requesting the District to reduce the number of SLAMS in order to reduce their resources required to provide oversight and conduct QA/QC for the monitoring network. In addition, CARB operates the Santa Barbara and Santa Maria stations, with their staff traveling from their El Monte office to test and maintain the equipment. The long distance and travel time associated with maintenance of these stations resulted in instrument failures and lack of important data, sometimes for several months, at both locations in 2016 and 2017. CARB has stated they will shut down these stations or transfer the stations to the District to assume operational responsibility.

The District's goal in the negotiations with EPA and CARB was to maintain the operations at both the Santa Barbara and Santa Maria sites, since they serve the largest population areas in the county, and have the highest reading of particulate matter (i.e., the Santa Maria station). In order to take responsibility for the two stations, the District had to evaluate network modifications to ensure sufficient resources to manage the overall monitoring network, and provide essential data collection to meet public needs, and state and federal requirements.

District staff evaluated the current monitoring network to assess whether any of the monitoring locations or the specific pollutants measured at those locations were still necessary, or whether they could be discontinued. Requirements for making such determinations are provided in Title 40 of the Code of Federal Regulations (40 CFR), Part 58.14. Staff also evaluated the Industrial monitors that are operated pursuant to District permit requirements. In this assessment, staff also considered CARB's interest in reducing the amount of monitoring stations and measured pollutants within the network. A report was compiled to summarize the requested changes and provide reasoning and justification for modifying the monitoring network in order to maximize District resources and optimize monitor locations.

The assessment considered multiple facets such as: 1) whether any of the station locations were providing information that was duplicative of others, 2) do the stations provide useful information to potentially affected communities, and/or 3) is the station registering higher readings for critical pollutants such as ozone or particulate matter. The assessment resulted in the proposed removal of the El Capitan, Vandenberg Air Force Base, and Nojoqui monitoring stations, for the following reasons:

- The monitoring location at El Capitan State Beach provides similar information to what is already provided at the Las Flores Canyon station.
- The Las Flores Canyon station, which is close to the El Capitan station, typically records higher ozone levels and was therefore retained as the SLAMS monitor for that area.
- The ozone monitors at Carpinteria, Santa Ynez, and Paradise Road have all historically measured high ozone levels; therefore, those monitors were retained in the network.
- The monitoring station at Vandenberg Air Force Base is not as representative as the Lompoc H Street station is at showing impacts to the community.
- Similarly, the Nojoqui monitoring station is neither close to a potentially impacted community nor is it close to any industrial sources.

The network modification request consists of removal of monitors, changing individual monitor designations from Industrial to SLAMS, and changing designation from Industrial to non-NAAQS monitors. All of the monitors at El Capitan, Nojoqui, and Vandenberg Air Force Base South Base (VAFB STS) air monitoring stations will be removed and the stations shut down. The carbon monoxide and nitrogen dioxide monitors will be removed from the Goleta air monitoring stations. The rest of the changes consist of designation changes for individual monitors. Some of the Industrial ozone monitors will be changed to SLAMS monitors, since they represent some of the historically higher ozone levels in the County; most of the other Industrial monitors will be changed to non-NAAQS monitors, and will continue to be operated to meet District objectives. All monitors with designation changes will continue to be operated according to the District's rigorous quality assurance/quality control procedures.

On July 1, 2018, the District submitted its Annual Air Monitoring Network Plan to EPA. This Plan included the proposed modifications to the network. The Plan was available for public comment 30 days prior to our formal submittal. No comments were received. On August 7, 2018, the District submitted to EPA a formal request for modifications to our network pursuant to 40 CFR, Part 58.14. The request included a report that documents the reasoning and justification for the changes. On October 29, 2018, EPA provided a letter stating that they would not provide a decision on the system modifications, since discussions were still ongoing between the District, CARB, and EPA. On November 30, 2018, CARB sent a letter to EPA supporting the District's proposed changes; the District anticipates that EPA will be sending a final approval soon. These documents are available for review on our website: www.ourair.org/air-monitoring.

In concert with the other monitoring network changes described herein, the District and CARB have mutually agreed that the District will assume responsibility to operate the Santa Barbara

and Santa Maria stations. This will assure continuity of data collection, and continue to provide this important air quality information to the community. The table below shows the stations, monitors, and their designations after the network modification is complete.

Modified Monitoring Network

Station	CO	SO2	H2S	NO2	THC	TRS	O3	PM10	PM2.5
Carpinteria				X			X		
Goleta							X	X	X
LFC Odor			X						
LFC1	X	X		X	X		X	X	
Lompoc H St.	X	X		X			X	X	X
Lompoc HSP		X		X	X		X		
Lompoc Odor			X			X			
Paradise Rd				X			X		
Santa Barbara							X	X	X
Santa Maria	X			X			X	X	X
Santa Ynez							X		
West Campus		X	X		X	X			

Notes: THC = total hydrocarbons; TRS = total reduced sulfur

The presentation to your Board will summarize, with maps and tables, the changes to the District's Air Monitoring network.

FISCAL IMPACT:

The District receives grant funding from EPA to implement its air monitoring programs, as well as funding from the state and from industrial sources. All of these funding sources are included in the District's annual operating budget. The changes to the monitoring network will reduce staff time and other operating expenses, such as replacement and testing costs, for the monitoring stations and the specific monitoring equipment that will be removed from service. However, there will be additional expenses related to staff time, equipment, and supplies to operate the two stations that CARB has operated previously (Santa Barbara and Santa Maria). We expect that these changes can be accommodated within the District's adopted budget for Fiscal Year 18-19.