



# **Annual Air Monitoring Network Plan**

**For**

**Santa Barbara County**

**July 2009**

**Prepared by the**

**Santa Barbara County  
Air Pollution Control District**

# Annual Air Monitoring Network Plan for Santa Barbara County

## Table of Contents

| <u>Section</u>   | <u>Page</u> |
|--|-------------|
| 1.0 Introduction .....                                   | 3           |
| 1.1 Network Design .....                                 | 5           |
| 1.2 Stations .....                                       | 5           |
| 2.0 Monitoring Requirements .....                        | 9           |
| 2.1 Ozone (O3).....                                      | 9           |
| 2.2 Carbon Monoxide (CO) .....                           | 10          |
| 2.3 Nitrogen Dioxide (NO2) .....                         | 10          |
| 2.4 Sulfur Dioxide (SO2).....                            | 10          |
| 2.5 Particulate Matter (PM10).....                       | 11          |
| 2.6 Particulate Matter (PM2.5).....                      | 11          |
| 2.7 Recent or Proposed Modifications to the Network..... | 12          |
| 2.8 Additional Monitors .....                            | 12          |
| 3.0 Additional information on PM2.5 monitors.....        | 13          |
| 3.1 Comparison to annual PM2.5 NAAQS.....                | 13          |
| 3.2 Review of changes to PM2.5 network .....             | 13          |
| 4.0 Quality Assurance and Data Submittal.....            | 14          |
| 4.1 Annual performance evaluation .....                  | 14          |
| 4.2 Data submittal .....                                 | 14          |
| 4.3 Annual certification .....                           | 14          |
| 5.0 Detailed Site Information .....                      | 14          |
| Glossary of Acronyms.....                                | G - 1       |
| Appendix A Regulatory Language of 40 CFG 58.10 .....     | A - 1       |

## List of Tables

| <u>Table</u>   | <u>Page</u> |
|--|-------------|
| 1.1 Monitoring Network in Santa Barbara County .....                         | 7           |
| 1.2 Measured Parameters with Spatial Scale and<br>Monitoring Objective ..... | 8           |
| 2.1 Minimum Monitoring Requirements for Ozone .....                          | 10          |
| 2.2 Minimum Monitoring Requirements for PM10 .....                           | 11          |
| 2.3 Minimum Monitoring Requirements for PM2.5 .....                          | 12          |
| 5.1 Carpinteria Monitoring Station Details .....                             | 15          |
| 5.2 El Capitan Monitoring Station Details .....                              | 16          |
| 5.3 Ellwood Odor Monitoring Station Details .....                            | 17          |
| 5.4 Goleta Monitoring Station Details .....                                  | 18          |
| 5.5 Las Flores Canyon #1 Monitoring Station Details .....                    | 19          |
| 5.6 Las Flores Canyon Odor Monitoring Station Details .....                  | 20          |
| 5.7 Lompoc HS&P Monitoring Station Details .....                             | 21          |
| 5.8 Lompoc H Street Monitoring Station Details .....                         | 22          |
| 5.9 Lompoc Odor Monitoring Station Details .....                             | 23          |
| 5.10 Nojoqui Monitoring Station Details .....                                | 24          |
| 5.11 Paradise Road Monitoring Station Details .....                          | 25          |
| 5.12 Santa Barbara Monitoring Station Details .....                          | 26          |
| 5.13 Santa Maria Monitoring Station Details .....                            | 27          |
| 5.14 Santa Ynez Monitoring Station Details .....                             | 28          |
| 5.15 UCSB West Campus Monitoring Station Details .....                       | 29          |
| 5.16 VAFB STS Monitoring Station Details .....                               | 30          |

## List of Figures

| <u>Figure</u>   | <u>Page</u> |
|---|-------------|
| 1.1 Map of Monitoring Network in Santa Barbara County ..... | 6           |

## **1.0 Introduction**

This report describes the network of ambient air quality monitors in Santa Barbara County. This report was prepared to meet the requirements for an annual network plan as listed in Title 40, Part 58, Section 10 of the Code of Federal Regulations (40 CFR 58.10). The language of 40 CFR 58.10 is included in Appendix A of this report. The regulations require that this report be submitted to the U.S. Environmental Protection Agency (EPA) by July 1 of each year.

This review is used to determine if the State and Local Air Monitoring Station (SLAMS) network in Santa Barbara County meets the U.S. Environmental Protection Agency (EPA) criteria for station siting based on the EPA monitoring objectives. This network review ensures that the data collected by the SLAMS air monitoring network in Santa Barbara County is representative and will satisfy the data needs of EPA, California Air Resources Board (CARB), and the Santa Barbara County Air Pollution Control District (SBCAPCD).

This network plan includes SLAMS monitors which are federal reference methods (FRM), federal equivalent methods (FEM), or approved regional methods (ARM). Special purpose monitors (SPM) are also included in this plan. The SPM in Santa Barbara County consist of a number of Prevention of Significant Deterioration (PSD) sites operated by the SBCAPCD or private contractors. There are a number of major oil and gas developments in Santa Barbara County with permits for the production, processing and transportation of oil and gas. These oil and gas permits trigger the PSD monitoring requirements.

### **1.1 Network Design**

The air monitoring network in Santa Barbara County consists of SLAMS and SPMS operated by the SBCAPCD, California Air Resources Board (CARB) and private contractors. The monitoring network is designed to cover the diverse range of topography, meteorology, emissions and air quality in Santa Barbara County, while adequately representing the population in the county.

This network review is used to determine if the monitoring system meets the monitoring objectives defined in 40 CFR 58 Appendix D. The three basic monitoring objectives as described in Appendix D are:

- 1) Provide air pollution data to the general public in a timely manner.
- 2) Support compliance with ambient air quality standards and emissions strategy development.
- 3) Support for air pollution research studies.

## 1.2 Stations

In order to support the air quality management work indicated in the three basic air monitoring objectives, the network is designed with a variety of monitoring site types. There are six general site types:

- 1) Highest concentrations expected to occur in the area.
- 2) Typical concentrations in areas of high population density.
- 3) Impact of significant sources on air quality.
- 4) General background concentration levels.
- 5) Regional pollutant transport among populated areas.
- 6) Air pollution impact on visibility, vegetation damage or other welfare-based impacts.

There are 16 ambient air monitoring stations located in Santa Barbara County. The map in Figure 1.1 shows the location of each site. These sites are operated for different objectives. There are six SLAMS stations which are sited to measure the typical concentrations in areas of high population density or to monitor the impacts of regional pollution. Two of these sites (Santa Barbara and Santa Maria) are operated by CARB. The other four SLAMS sites (Goleta, El Capitan, Lompoc H Street, and Santa Ynez) are operated by SBCAPCD.

There are ten sites which were installed as part of the PSD network to measure the impacts of stationary sources and to measure regional air quality. These sites are classified as SPM. Carpinteria, Exxon LFC 1, Lompoc HS & P, Nojoqui, Paradise Road, and VAFB STS were installed with ozone monitors to measure regional air quality in Santa Barbara County. Of these sites, Paradise Road and Exxon LFC 1 have measured the highest Ozone concentrations in the county. The Nojoqui monitoring station was located in a pass between the northern and southern portions of Santa Barbara County to measure transport between the two portions of the county. Exxon LFC 1, West Campus, Lompoc HS & P, and VAFB STS contain monitors to measure the impacts of nearby sources. Lompoc Odor, LFC Odor and Ellwood Odor are located near oil and gas processing facilities to monitor odorous compounds: hydrogen sulfide and total reduced sulfur. Table 1.1 lists the sites in Santa Barbara County and identifies the site's EPA AQS identification code, type of site, and operator. The sites in the table are numbered to match the site numbers of the map shown in Figure 1.1.

Figure 1.1  
 Map of Monitoring Network in Santa Barbara County

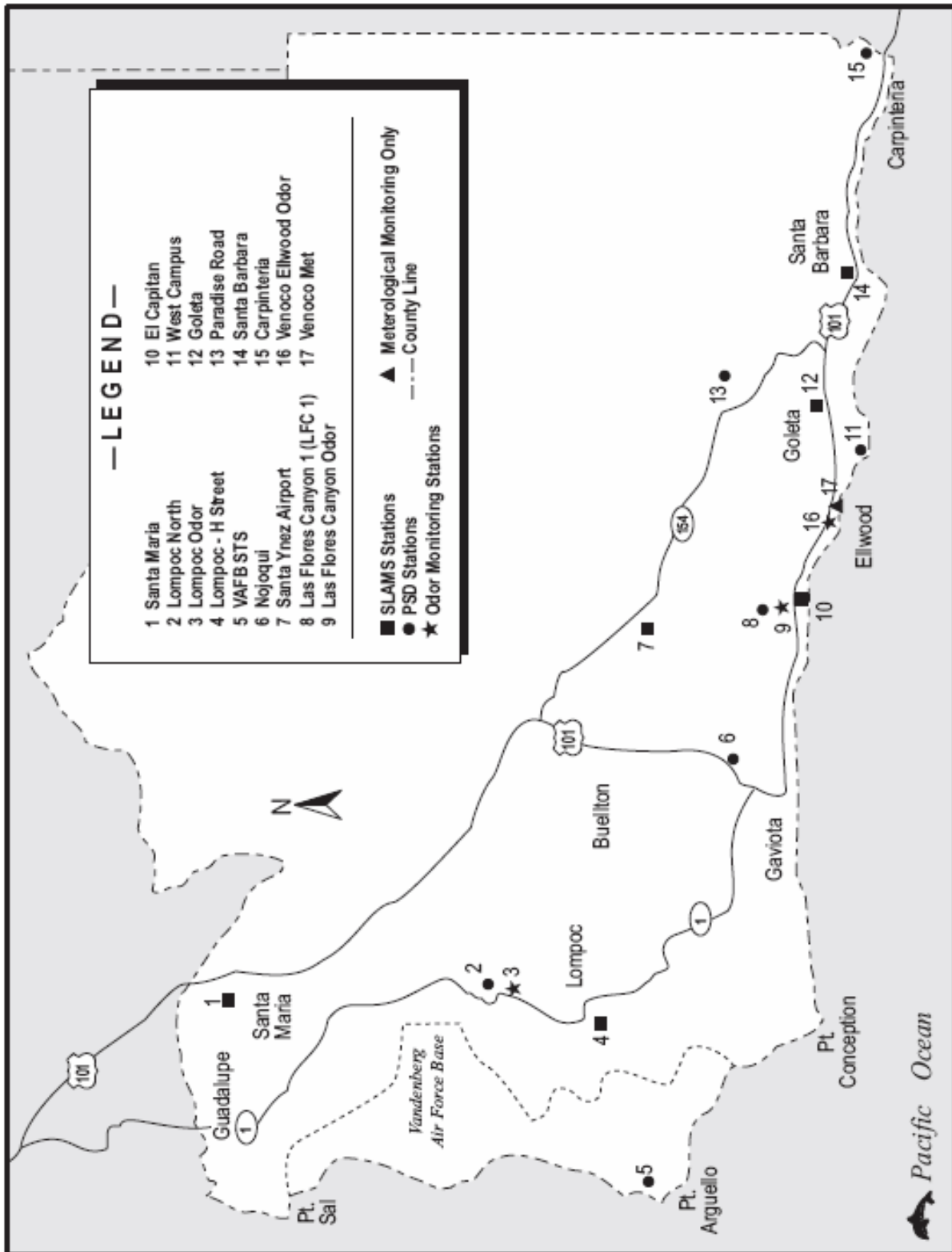


Table 1.1  
Monitoring Network in Santa Barbara County

| No. | Site Name                        | Site Code | Type  | Operator   |
|-----|----------------------------------|-----------|-------|------------|
| 1   | Santa Maria                      | 060831008 | SLAMS | CARB       |
| 2   | Lompoc HS & P                    | 060831013 | PSD   | Contractor |
| 3   | Lompoc Odor                      | 060831022 | PSD   | Contractor |
| 4   | Lompoc H Street                  | 060832004 | SLAMS | SBCAPCD    |
| 5   | VAFB STS                         | 060834003 | PSD   | SBCAPCD    |
| 6   | Nojoqui                          | 060831018 | PSD   | SBCAPCD    |
| 7   | Santa Ynez                       | 060833001 | SLAMS | SBCAPCD    |
| 8   | Exxon LFC 1                      | 060831025 | PSD   | SBCAPCD    |
| 9   | LFC Odor                         | 060831037 | PSD   | SBCAPCD    |
| 10  | El Capitan                       | 060830008 | SLAMS | SBCAPCD    |
| 11  | West Campus                      | 060831020 | PSD   | Contractor |
| 12  | Goleta                           | 060832011 | SLAMS | SBCAPCD    |
| 13  | Paradise Road                    | 060831014 | PSD   | Contractor |
| 14  | Santa Barbara – Canon<br>Perdido | 060830011 | SLAMS | CARB       |
| 15  | Carpinteria                      | 060831021 | PSD   | Contractor |
| 16  | Ellwood Odor                     | 060831032 | PSD   | Contractor |

### 1.3 Monitors

Many of the sites in the monitoring network serve multi-purposes. They may be ideal for background concentration for one pollutant while also measuring the impact of transport for another pollutant. To clarify the nature of the link between the general monitoring objectives, site types, and physical location of a particular monitor, the concept of spatial scale of representativeness is defined. The goal of locating monitors is to correctly match the spatial scale represented by the sample of monitored air with the spatial scale most appropriate for the monitoring site type, air pollutant to be measured, and the monitoring objective. The scales of representativeness of most interest for the monitoring site types are described as follows:

- 1) Microscale – Defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- 2) Middle scale – Defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.

- 3) Neighborhood scale – Defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range.
- 4) Urban scale – Defines concentrations within an area of city like dimensions, on the order of 4 to 50 kilometers.
- 5) Regional scale – Defines usually a rural area of reasonably homogeneous geography without large sources, and extends from tens to hundreds of kilometers.

The sites and the monitors located at each site are listed in Table 1.2. The table includes the spatial scale and monitoring objective for each monitored pollutant.

Table 1.2  
Measured Parameters with Spatial Scale and Monitoring Objective

| Parameter                  | O3           | NO2          | SO2          | CO           | PM-2.5       | PM-10        | THC          | H2S          | TRS          |
|----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>AIRS Pollutant Code</b> | <b>44201</b> | <b>42602</b> | <b>42401</b> | <b>42101</b> | <b>88101</b> | <b>81102</b> | <b>43101</b> | <b>42402</b> | <b>43911</b> |
| Carpinteria                | RS/HC        | RS/BL        |              |              |              |              |              |              |              |
| El Capitan                 | RS/RC        | RS/RC        | RS/BL        |              |              | RS/RC        | RS/RC        |              |              |
| Ellwood Odor               |              |              |              |              |              |              |              | NS/IM        | NS/IM        |
| Goleta                     | US/RC        | US/RC        |              | NS/RC        |              |              |              |              |              |
| Las Flores Cyn 1           | RS/HC        | NS/IM        | NS/IM        | NS/IM        |              | NS/IM        | NS/IM        |              |              |
| LFC Odor                   |              |              |              |              |              |              |              | NS/IM        | NS/IM        |
| Lompoc H St.               | NS/RC        | NS/RC        | NS/RC        | NS/RC        |              | NS/RC        |              |              |              |
| Lompoc HSP                 | RS/RC        | NS/IM        | NS/IM        |              |              |              | NS/IM        |              |              |
| Lompoc Odor                |              |              |              |              |              |              |              | NS/IM        | NS/IM        |
| Nojoqui                    | RS/BL        | RS/BL        |              |              |              |              |              |              |              |
| Paradise Road              | RS/HC        | RS/BL        |              |              |              |              |              |              |              |
| Santa Barbara              | US/RC        | US/HC        |              | MS/HC        | NS/HC        | NS/HC        |              |              |              |
| Santa Maria                | US/RC        | US/RC        |              | MS/RC        | NS/RC        | NS/RC        |              |              |              |
| Santa Ynez                 | RS/RC        |              |              |              |              |              |              |              |              |
| VAFB STS                   | RS/BL        | NS/IM        | NS/IM        | NS/IM        |              | NS/IM        | NS/IM        |              |              |
| West Campus                |              |              | NS/IM        |              |              |              | NS/IM        | NS/IM        | NS/IM        |

Spatial Scale:

- MS – Middle Scale
- NS – Neighborhood Scale
- US – Urban Scale
- RS – Regional Scale

Monitoring Objective:

- RC – Representative Concentration
- HC – Highest Concentration
- BL – Background Levels
- IM – Source Impact

## **2.0 Monitoring Requirements**

EPA regulations specify the minimum number of sites at which state and local air agencies must deploy monitors. Santa Barbara County meets or exceeds EPA's minimum requirements. In practice, the state and local agencies find they need to deploy more monitors than required by the law. The additional monitors are needed to fulfill state and local purposes for monitoring that are in addition to the federal purposes. A number of monitors are required by permits issued to operate stationary emission sources. California State air quality standards are more stringent than national standards and require more monitors to show compliance with the state standards. Monitors are also used to keep the public informed of the actual air quality conditions where they live and work. Also, due to the complex topography in Santa Barbara County, more monitors than the minimum required by EPA are needed to properly characterize the air quality in the county.

The requirements for numbers of monitors appear in Appendix D of Part 58 of the CFR. For ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>, the required minimum number is based on the population of an area and the severity of the air quality for the pollutant in the area. For other pollutants, no monitoring is required unless an area exceeds or is close to exceeding a national ambient air quality standard. For purposes of the minimum requirements, the areas are defined by the metropolitan statistical areas (MSAs) developed by the U.S. Census Bureau. Santa Barbara County is part of the Santa Barbara – Santa Maria MSA. It covers the major cities in our county and has a population count of 399,347 based on the 2000 U.S. Census.

### **2.1 Ozone (O<sub>3</sub>)**

The minimum monitoring requirements for ozone are listed in Table 2.1. Santa Barbara County has 12 ozone monitors which met the requirements of EPA. Santa Barbara County has attained the federal ozone standard but is still non-attainment for the state ozone standard. Four sites recorded concentrations of ozone in excess of the federal standards in 2008. Those sites are: Carpinteria, Exxon LFC1, Paradise Road, and VAFB STS. Seven sites recorded concentrations of ozone in excess of the state standards in 2008. Those sites are: Carpinteria, Exxon LFC 1, Lompoc HS&P, Lompoc H Street, VAFB STS, Santa Ynez, and Paradise Road. The other sites with ozone monitors are Goleta, El Capitan, Santa Barbara, Santa Maria, and Nojoqui. These sites are used to keep the public informed of air quality in areas of major population. The data is used in air quality index (AQI) reporting and air quality mapping.

Table 2.1  
Minimum Monitoring Requirements for Ozone

| MSA                             | County               | Pop. (year)    | 8-hour Design Value (years) | Min. # Monitors Required | # Monitors Active | Monitors Needed |
|---------------------------------|----------------------|----------------|-----------------------------|--------------------------|-------------------|-----------------|
| Santa Barbara – Santa Maria, CA | Santa Barbara County | 399,347 (2000) | .073 ppm<br>2006 - 2008     | 2                        | 12                | 0               |

## 2.2 Carbon Monoxide (CO)

There are no EPA minimum requirements for the number of CO monitoring sites. Continued operation of existing SLAMS CO sites is required until discontinuation is approved by the EPA. There are four SLAMS CO monitors at Goleta, Lompoc H Street, Santa Barbara and Santa Maria which are used to measure the impacts of high population exposure. There are also CO monitors located at Exxon LFC1 and VAFB STS which are required by operating permit conditions issued to nearby sources.

## 2.3 Nitrogen Dioxide (NO2)

There are no EPA minimum requirements for the number of NO2 monitoring sites. Continued operation of existing SLAMS NO2 sites is required until discontinuation is approved by the EPA. There are five SLAMS NO2 monitors. Goleta, Lompoc H Street, Santa Barbara, and Santa Maria are used to measure the impacts of high population exposure and El Capitan monitors the pollutant on a regional scale. There are six other sites which measure NO2: Carpinteria, Exxon LFC 1, Nojoqui, Paradise Road, Lompoc HS & P, and VAFB STS. These monitors are required by operating permit conditions of nearby sources and are used to measure the impact of sources on regional ozone formation.

## 2.4 Sulfur Dioxide (SO2)

There are no EPA minimum requirements for the number of SO2 monitoring sites. Continued operation of existing SLAMS SO2 sites is required until discontinuation is approved by the EPA. There are three SLAMS SO2 monitors at Goleta, El Capitan, and Lompoc H Street which are used to measure the impacts of high population exposure. EPA approved removal of the SO2 monitor at Goleta and it was removed on December 31, 2008. There are four other sites which measure SO2: Exxon LFC 1, UCSB West Campus, Lompoc HS&P, and VAFB STS. These monitors are required by operating permit conditions of

nearby sources and are used to measure the impact of sources on the surrounding air quality.

## 2.5 Particulate Matter (PM10)

The minimum monitoring requirements for PM10 are listed in Table 2.2. There are four SLAMS PM10 monitors located at Santa Barbara, El Capitan, Lompoc H Street, and Santa Maria. There are two PSD sites which measure PM10: Exxon LFC 1 and VAFB STS. These monitors are required by operating permit conditions of nearby sources and are used to measure the impact of nearby sources on the surrounding air quality.

Table 2.2  
Minimum Monitoring Requirements for PM10

| MSA                             | County               | Pop. (year)    | Daily Design Value (years) | Min. # Monitors Required | # Monitors Active | Monitors Needed |
|---------------------------------|----------------------|----------------|----------------------------|--------------------------|-------------------|-----------------|
| Santa Barbara – Santa Maria, CA | Santa Barbara County | 399,347 (2000) | 72 ug/m3 2006-2008         | 0-1                      | 4                 | 0               |

## 2.6 Particulate Matter (PM2.5)

The minimum monitoring requirements for PM2.5 are listed in Table 2.3. There are two SLAMS PM2.5 monitors located at Santa Barbara and Santa Maria. These two samplers are FRM approved and measure every six days. In addition, there are three real-time PM2.5 samplers running at Santa Barbara, Santa Maria, and Lompoc H Street. These samplers collect data every hour of every day and are used for air quality reporting.

Table 2.3  
Minimum Monitoring Requirements for PM2.5

| MSA                                | County                     | Pop.<br>(year)    | Annual<br>Design<br>Value<br>(years) | Daily<br>Design<br>Value<br>(years) | Monitors<br>Required | Monitors<br>Active | Monitors<br>Needed |
|------------------------------------|----------------------------|-------------------|--------------------------------------|-------------------------------------|----------------------|--------------------|--------------------|
| Santa Barbara –<br>Santa Maria, CA | Santa<br>Barbara<br>County | 399,347<br>(2000) | 10.1 ug/m3<br>2006 - 2008            | 24 ug/m3<br>2006 - 2008             | 0                    | 2                  | 0                  |

## 2.7 Recent or Proposed Modifications to the Network

No new monitors were installed in the network during 2008.

EPA approved the removal of the SO<sub>2</sub> monitor from the Goleta monitoring station. The monitor was removed on December 31, 2008. This was discussed in the 2008 Network plan.

No other plans exist to add or remove any other monitors in the next 18 months.

## 2.8 Additional Monitors

Santa Barbara County operates some monitors which are not required by 40 CFR 58.10. These sites and monitors are included in the network review for reference only and not to show compliance with any requirements even though they are operated under the same quality guidelines as the FRM monitors.

There are four stations which are set up near oil and gas processing facilities to monitor for two odors compounds: Hydrogen sulfide (H<sub>2</sub>S) and total reduced sulfur (TRS). These monitors are located at the following stations: Lompoc Odor, LFC Odor, Ellwood Odor, and UCSB West Campus.

Total Hydrocarbon monitors (THC) are also located at some of the PSD monitoring stations located near oil and gas processing facilities. These sites are: El Capitan, Exxon LFC 1, Lompoc HS&P, West Campus, and VAFBSTS.

All of the monitoring stations listed in this report also measure wind speed, wind directions and ambient temperature. These data are used for modeling and tracking.

### **3.0 Additional information on PM2.5 monitors**

This section includes information for a couple of elements required to be in the annual network plan that relate specifically to PM2.5. One required element relates to whether data for a PM2.5 monitor can be used to determine compliance with the national annual PM2.5 air quality standard. In the CFR, this is termed as the suitability for comparison to the annual standard. The other element requires information regarding the review process followed by air agencies when changes are made to the location of a PM2.5 monitor that is violating a PM2.5 NAAQS.

#### **3.1 Comparison to annual PM2.5 NAAQS**

The CFR requires that only data from a PM2.5 FRM or FEM be used in regulatory determinations of compliance with the annual PM2.5 NAAQS and that the monitor be located at a neighborhood scale. For a PM2.5 monitor to be representative at a neighborhood scale, the concentration values measured by the monitor should be representative of concentrations expected over an area with dimensions of a few kilometers. Therefore the monitor should not be located too close to a hot spot of PM2.5 concentrations that extends over distances less than a few hundred meters. All of the PM2.5 FRM monitors in Santa Barbara County are sited to be representative of a neighborhood scale and meet this suitability requirement.

#### **3.2 Review of changes to PM2.5 network**

The PM2.5 network of FRM monitors in California was largely established in 1999 and completed in 2000. There are two monitors located in Santa Barbara and Santa Maria as part of this larger network in California. CARB located and operates these two monitors. SBCAPCD and CARB would discuss any proposed changes to the network of PM2.5 monitors in Santa Barbara County prior to any formal changes being made.

## **4.0 Quality Assurance and Data Submittal**

All data collected from the monitors in the Santa Barbara County network are reviewed for quality assurance by the SBCAPCD with the exception of the Santa Barbara and Santa Maria monitoring stations which are reviewed and processed by CARB.

### **4.1 Annual performance evaluation**

Annual performance evaluations challenge the monitors with known concentrations of audit gases to evaluate the accuracy of the monitors. The SLAMS sites in Santa Barbara County are audited on an annual basis by the CARB. The PSD stations are evaluated by an independent contractor who audits the monitors on a quarterly basis.

### **4.2 Data submittal**

Digital records of the data including precision and accuracy data are submitted to EPA by uploading the records to their air quality system data base (AQS). These records are submitted within 90 days following the end of each quarterly reporting period.

### **4.3 Annual certification**

The data are certified for their accuracy and completeness on an annual basis and a certification letter is submitted to the regional EPA administrator by July 1 of each year.

## **5.0 Detailed Site Information**

The tables in this section give detailed information relating to the sites and monitors. They are presented to show compliance with the monitoring requirements found in 40 CFR 58.10.

Table 5.1  
Carpinteria Monitoring Station Details

|  |  |                |  |  |  |
|--|--|----------------|--|--|--|
| <b>Site Name</b>                             | <b>Carpinteria</b>                                       |                |  |  |  |
| AQS ID                                       | 060831021  |                |  |  |  |
| GIS coordinates                              | Lat 34° 24' 10.97" Long 119° 27' 28.62"                  |                |  |  |  |
| Location                                     | Located in a rural setting NE of the City of Carpinteria |                |  |  |  |
| Address                                      | Gobernador Road, Carpinteria, CA 93013                   |                |  |  |  |
| County                                       | Santa Barbara County                                     |                |  |  |  |
| Dist. to road                                | 200 meters   |                |  |  |  |
| Traffic count                                | 20 Vehicles per day                                      |                |  |  |  |
| Groundcover                                  | Grass  |                |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)                    |                |  |  |  |
| <b>Pollutant</b>                             | <b>O3</b>  | <b>NO2</b>     |  |  |  |
| Sampling method                              | TAPI 400e  | TEI 42C        |  |  |  |
| Analysis method                              | N/A  | N/A            |  |  |  |
| Start date                                   | 1/1/86   | 1/1/86         |  |  |  |
| Operation schedule                           | Continuous   | Continuous     |  |  |  |
| Sampling season                              | All Year   | All Year       |  |  |  |
| Probe height                                 | 4.1 m  | 4.1 m          |  |  |  |
| Distance from supporting structure           | 1.3 m  | 1.3 m          |  |  |  |
| Distance from obstructions on roof           | None   | None           |  |  |  |
| Distance from obstructions not on roof       | None   | None           |  |  |  |
| Distance from trees                          | None   | None           |  |  |  |
| Unrestricted airflow                         | 360°   | 360°           |  |  |  |
| Probe material                               | Glass & Teflon   | Glass & Teflon |  |  |  |
| Residence time                               | 8.8 s  | 8.4 s          |  |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-weekly  | Bi-weekly      |  |  |  |
| Last annual performance evaluation (gaseous) | 11/10/08   | 11/10/08       |  |  |  |

Table 5.2  
El Capitan Monitoring Station Details

|  |  |                |                |                |                    |
|--|--|----------------|----------------|----------------|--------------------|
| <b>Site Name</b>   | <b>El Capitan</b>                            |                |                |                |                    |
| AQS ID   | 060830008                                    |                |                |                |                    |
| GIS coordinates  | Lat 34° 27' 44.8" Long 120° 1' 31.8"         |                |                |                |                    |
| Location   | Behind maintenance yard of campground        |                |                |                |                    |
| Address  | US Hwy 101, El Capitan State Beach, CA 93117 |                |                |                |                    |
| County   | Santa Barbara County                         |                |                |                |                    |
| Dist. to road  | 100 meters                                   |                |                |                |                    |
| Traffic count  | 50000 Vehicles per day                       |                |                |                |                    |
| Groundcover  | Grass and dirt                               |                |                |                |                    |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)        |                |                |                |                    |
| <b>Pollutant</b>   | <b>O3</b>                                    | <b>NO2</b>     | <b>SO2</b>     | <b>THC</b>     | <b>PM10</b>        |
| Sampling method  | TAPI 400e                                    | TEI 42c        | TEI 43i        | TEI 51i        | SA 1200            |
| Analysis method  | N/A  | N/A            | N/A            | N/A            | Weighed by SBCAPCD |
| Start date   | 6/1/78                                       | 6/1/78         | 6/1/78         | 6/1/78         | 6/1/78             |
| Operation schedule   | Continuous                                   | Continuous     | Continuous     | Continuous     | 1 in 6 day         |
| Sampling season  | All Year                                     | All Year       | All Year       | All Year       | All Year           |
| Probe height   | 3.8 m  | 3.8 m          | 3.8 m          | 3.8 m          | 4.1 m              |
| Distance from supporting structure                               | 1.2 m  | 1.2 m          | 1.2 m          | 1.2 m          | 1.5 m              |
| Distance from obstructions on roof                               | None   | None           | None           | None           | None               |
| Distance from obstructions not on roof                           | None   | None           | None           | None           | None               |
| Distance from trees  | None   | None           | None           | None           | None               |
| Distance between collocated monitors                             | N/A  | N/A            | N/A            | N/A            | 2 m                |
| Unrestricted airflow   | 360°   | 360°           | 360°           | 360°           | 360°               |
| Probe material   | Glass & Teflon                               | Glass & Teflon | Glass & Teflon | Glass & Teflon | N/A                |
| Residence time   | 10.9 s                                       | 11.1 s         | 13.4 s         | 10.8 s         | N/A                |
| Frequency of flow rate verification for manual PM samplers audit | N/A  | N/A            | N/A            | N/A            | Monthly            |
| Frequency of one-point QC check (gaseous)                        | Weekly                                       | Weekly         | Weekly         | Weekly         | N/A                |
| Last annual performance evaluation (gaseous)                     | 4/22/08                                      | 4/22/08        | 4/22/08        | 4/22/08        | N/A                |
| Last two semi-annual flow rate audits for PM monitors            | N/A  | N/A            | N/A            | N/A            | 4/22/08            |

Table 5.3  
Ellwood Odor Monitoring Station Details

|  |   |                |  |  |  |
|--|---|----------------|--|--|--|
| <b>Site Name</b>                             | <b>Ellwood Odor</b>                     |                |  |  |  |
| AQS ID                                       | 060831032                               |                |  |  |  |
| GIS coordinates                              | Lat 34° 25' 49.30" Long 119° 53' 51.18" |                |  |  |  |
| Location                                     | Located in a vehicle storage lot        |                |  |  |  |
| Address                                      | Hollister Ave, Goleta, CA               |                |  |  |  |
| County                                       | Santa Barbara County                    |                |  |  |  |
| Dist. to road                                | 100 meters                              |                |  |  |  |
| Traffic count                                | 20000 Vehicles per day                  |                |  |  |  |
| Groundcover                                  | Asphalt                                 |                |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)   |                |  |  |  |
| <b>Pollutant</b>                             | <b>H2S</b>                              | <b>TRS</b>     |  |  |  |
| Sampling method                              | ML 8850                                 | TEI 43C        |  |  |  |
| Analysis method                              | N/A                                     | N/A            |  |  |  |
| Start date                                   | 4/1/00                                  | 4/1/00         |  |  |  |
| Operation schedule                           | Continuous                              | Continuous     |  |  |  |
| Sampling season                              | All Year                                | All Year       |  |  |  |
| Probe height                                 | 3.5                                     | 3.5            |  |  |  |
| Distance from supporting structure           | 1.1                                     | 1.1            |  |  |  |
| Distance from obstructions on roof           | None                                    | None           |  |  |  |
| Distance from obstructions not on roof       | None                                    | None           |  |  |  |
| Distance from trees                          | None                                    | None           |  |  |  |
| Unrestricted airflow                         | 360°                                    | 360°           |  |  |  |
| Probe material                               | Glass & Teflon                          | Glass & Teflon |  |  |  |
| Residence time                               | 14.9 s                                  | 14.9 s         |  |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-Weekly                               | Bi-Weekly      |  |  |  |
| Last annual performance evaluation (gaseous) | 11/11/08                                | 11/11/08       |  |  |  |

Table 5.4  
Goleta Monitoring Station Details

|  |                                       |                |                |                |  |
|--|---------------------------------------|----------------|----------------|----------------|--|
| <b>Site Name</b>                             | <b>Goleta</b>                         |                |                |                |  |
| AQS ID                                       | 060832011                             |                |                |                |  |
| GIS coordinates                              | Lat 34° 26' 43.8" Long 119° 49' 42"   |                |                |                |  |
| Location                                     | In field behind Lutheran Church       |                |                |                |  |
| Address                                      | 380 N. Fairview Ave., Goleta, CA      |                |                |                |  |
| County                                       | Santa Barbara County                  |                |                |                |  |
| Dist. to road                                | 150 meters                            |                |                |                |  |
| Traffic count                                | 14000 Vehicles per day                |                |                |                |  |
| Groundcover                                  | Grass                                 |                |                |                |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA) |                |                |                |  |
| <b>Pollutant</b>                             | <b>O3</b>                             | <b>NO2</b>     | <b>SO2</b>     | <b>CO</b>      |  |
| Sampling method                              | TAPI 400e                             | TAPI 200e      | TEI 43i        | TAPI 300e      |  |
| Analysis method                              | N/A                                   | N/A            | N/A            | N/A            |  |
| Start date                                   | 1/1/1980                              | 1/1/1992       | 1/1/1980       | 5/1/1982       |  |
| Operation schedule                           | Continuous                            |                |                |                |  |
| Sampling season                              | All Year                              | All Year       | All Year       | All Year       |  |
| Probe height                                 | 4.5 m                                 | 4.5 m          | 4.5 m          | 4.5 m          |  |
| Distance from supporting structure           | 2.1 m                                 | 2.1 m          | 2.1 m          | 2.1 m          |  |
| Distance from obstructions on roof           | None                                  | None           | None           | None           |  |
| Distance from obstructions not on roof       | None                                  | None           | None           | None           |  |
| Distance from trees                          | None                                  | None           | None           | None           |  |
| Unrestricted airflow                         | 360°                                  | 360°           | 360°           | 360°           |  |
| Probe material                               | Glass & Teflon                        | Glass & Teflon | Glass & Teflon | Glass & Teflon |  |
| Residence time                               | 8.4 s                                 | 9.1 s          | 8.4 s          | 9.3 s          |  |
| Frequency of one-point QC check (gaseous)    | Weekly                                | Weekly         | Weekly         | Weekly         |  |
| Last annual performance evaluation (gaseous) | 4/24/08                               | 4/24/08        | 4/24/08        | 4/24/08        |  |

Table 5.5  
Las Flores Canyon #1 Monitoring Station Details

|  |  |                |                |                |                    |
|--|--|----------------|----------------|----------------|--------------------|
| <b>Site Name</b>   | <b>Las Flores Canyon #1</b>                        |                |                |                |                    |
| AQS ID   | 060831025  |                |                |                |                    |
| GIS coordinates  | Lat 34° 29' 23.1" Long 120° 2' 48.9"               |                |                |                |                    |
| Location   | North end of canyon behind an oil and gas facility |                |                |                |                    |
| Address  | Calle Real US Hwy 101, El Capitan, CA              |                |                |                |                    |
| County   | Santa Barbara County                               |                |                |                |                    |
| Dist. to road  | 3200 meters  |                |                |                |                    |
| Traffic count  | 50000 Vehicles per day                             |                |                |                |                    |
| Groundcover  | Grass and dirt                                     |                |                |                |                    |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)              |                |                |                |                    |
| <b>Pollutant</b>   | <b>O3</b>  | <b>NO2</b>     | <b>SO2</b>     | <b>CO</b>      | <b>PM10</b>        |
| Sampling method  | TAPI 400e  | TEI 42c        | TEI 43i        | TEI 48i        | SA 1200            |
| Analysis method  | N/A  | N/A            | N/A            | N/A            | Weighed by SBCAPCD |
| Start date   | 4/1/88   | 4/1/88         | 4/1/88         | 4/1/88         | 4/1/88             |
| Operation schedule   | Continuous   | Continuous     | Continuous     | Continuous     | 1 in 6 day         |
| Sampling season  | All Year   | All Year       | All Year       | All Year       | All Year           |
| Probe height   | 3.5 m  | 3.5 m          | 3.5 m          | 3.5 m          | 4.0 m              |
| Distance from supporting structure                               | 1.2 m  | 1.2 m          | 1.2 m          | 1.2 m          | 1.6 m              |
| Distance from obstructions on roof                               | None   | None           | None           | None           | None               |
| Distance from obstructions not on roof                           | None   | None           | None           | None           | None               |
| Distance from trees  | None   | None           | None           | None           | None               |
| Distance between collocated monitors                             | N/A  | N/A            | N/A            | N/A            | N/A                |
| Unrestricted airflow   | 360°   | 360°           | 360°           | 360°           | 360°               |
| Probe material   | Glass & Teflon                                     | Glass & Teflon | Glass & Teflon | Glass & Teflon | N/A                |
| Residence time   | 9.6 s  | 12.6 s         | 14.5 s         | 9.9 s          | N/A                |
| Frequency of flow rate verification for manual PM samplers audit | N/A  | N/A            | N/A            | N/A            | Monthly            |
| Frequency of one-point QC check (gaseous)                        | Weekly   | Weekly         | Weekly         | Weekly         | N/A                |
| Last annual performance evaluation (gaseous)                     | 4/30/08  | 4/30/08        | 4/30/08        | 4/30/08        | N/A                |
| Last two semi-annual flow rate audits for PM monitors            | N/A  | N/A            | N/A            | N/A            | 4/30/08            |

Table 5.6  
Las Flores Canyon Odor Monitoring Station Details

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <b>Site Name</b>                             | <b>Las Flores Canyon Odor</b>                                 |  |  |  |  |
| AQS ID                                       | 060831037   |  |  |  |  |
| GIS coordinates                              | Lat 34° 27' 52.3" Long 120° 02' 41.9"                         |  |  |  |  |
| Location                                     | Located in a parking lot at the entrance to Las Flores Canyon |  |  |  |  |
| Address                                      | Calle Real US Hwy 101, El Capitan, CA                         |  |  |  |  |
| County                                       | Santa Barbara County  |  |  |  |  |
| Dist. to road                                | 100 meters  |  |  |  |  |
| Traffic count                                | 50000 Vehicles per day  |  |  |  |  |
| Groundcover                                  | Gravel  |  |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)                         |  |  |  |  |
| <b>Pollutant</b>                             | <b>H2S</b>  |  |  |  |  |
| Sampling method                              | API 101e  |  |  |  |  |
| Analysis method                              | N/A   |  |  |  |  |
| Start date                                   | 2/1/88  |  |  |  |  |
| Operation schedule                           | Continuous  |  |  |  |  |
| Sampling season                              | All Year  |  |  |  |  |
| Probe height                                 | 3.5   |  |  |  |  |
| Distance from supporting structure           | 1.1   |  |  |  |  |
| Distance from obstructions on roof           | None  |  |  |  |  |
| Distance from obstructions not on roof       | None  |  |  |  |  |
| Distance from trees                          | None  |  |  |  |  |
| Unrestricted airflow                         | 360°  |  |  |  |  |
| Probe material                               | Glass & Teflon  |  |  |  |  |
| Residence time                               | 12.7 s  |  |  |  |  |
| Frequency of one-point QC check (gaseous)    | Weekly  |  |  |  |  |
| Last annual performance evaluation (gaseous) | 4/29/08   |  |  |  |  |

Table 5.7  
Lompoc HS&P Monitoring Station Details

|  |   |                |                |  |  |
|--|---|----------------|----------------|--|--|
| <b>Site Name</b>                             | <b>Lompoc HS&amp;P</b>                                  |                |                |  |  |
| AQS ID                                       | 060831013   |                |                |  |  |
| GIS coordinates                              | Lat 34° 43' 31.19" Long 120° 25' 43.28"                 |                |                |  |  |
| Location                                     | Located North of Lompoc near an oil processing facility |                |                |  |  |
| Address                                      | 2988 Harris Grade Rd, Lompoc, CA 93436                  |                |                |  |  |
| County                                       | Santa Barbara County                                    |                |                |  |  |
| Dist. to road                                | 2000 meters   |                |                |  |  |
| Traffic count                                | 100 Vehicles per day                                    |                |                |  |  |
| Groundcover                                  | Dirt  |                |                |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)                   |                |                |  |  |
| <b>Pollutant</b>                             | <b>O3</b>   | <b>NO2</b>     | <b>SO2</b>     |  |  |
| Sampling method                              | TEI 49i   | TEI 42c        | TEI 43i        |  |  |
| Analysis method                              | N/A   | N/A            | N/A            |  |  |
| Start date                                   | 1/1/86  | 1/1/86         | 1/1/86         |  |  |
| Operation schedule                           | Continuous  | Continuous     | Continuous     |  |  |
| Sampling season                              | All Year  | All Year       | All Year       |  |  |
| Probe height                                 | 4.7   | 4.7            | 4.7            |  |  |
| Distance from supporting structure           | 1.6   | 1.6            | 1.6            |  |  |
| Distance from obstructions on roof           | None  | None           | None           |  |  |
| Distance from obstructions not on roof       | None  | None           | None           |  |  |
| Distance from trees                          | None  | None           | None           |  |  |
| Unrestricted airflow                         | 360°  | 360°           | 360°           |  |  |
| Probe material                               | Glass & Teflon  | Glass & Teflon | Glass & Teflon |  |  |
| Residence time                               | 7.3 s   | 9.0 s          | 9.5 s          |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-weekly   | Bi-weekly      | Bi-Weekly      |  |  |
| Last annual performance evaluation (gaseous) | 11/12/08  | 11/12/08       | 11/12/08       |  |  |

Table 5.8  
Lompoc H Street Monitoring Station Details

|  |                                       |                |                |                |                    |
|--|---------------------------------------|----------------|----------------|----------------|--------------------|
| <b>Site Name</b>   | <b>Lompoc H Street</b>                |                |                |                |                    |
| AQS ID   | 060832004                             |                |                |                |                    |
| GIS coordinates  | Lat 34° 38' 16.2" Long 120° 27' 27"   |                |                |                |                    |
| Location   | Parking lot behind gas company        |                |                |                |                    |
| Address  | 128 S. H Street, Lompoc CA 93436      |                |                |                |                    |
| County   | Santa Barbara County                  |                |                |                |                    |
| Dist. to road  | 13 meters                             |                |                |                |                    |
| Traffic count  | 10000 Vehicles per day                |                |                |                |                    |
| Groundcover  | Asphalt                               |                |                |                |                    |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA) |                |                |                |                    |
| <b>Pollutant</b>   | <b>O3</b>                             | <b>NO2</b>     | <b>SO2</b>     | <b>CO</b>      | <b>PM10</b>        |
| Sampling method  | TAPI 400e                             | TAPI 200e      | TEI 43         | TAPI 300       | SA 1200            |
| Analysis method  | N/A                                   | N/A            | N/A            | N/A            | Weighed by SBCAPCD |
| Start date   | 1/1/84                                | 5/1/91         | 1/1/84         | 1/1/84         | 12/20/91           |
| Operation schedule   | Continuous                            | Continuous     | Continuous     | Continuous     | 1 in 6 day         |
| Sampling season  | All Year                              | All Year       | All Year       | All Year       | All Year           |
| Probe height   | 5.3 m                                 | 5.3 m          | 5.3 m          | 5.3 m          | 5.5 m              |
| Distance from supporting structure                                   | 1.3 m                                 | 1.3 m          | 1.3 m          | 1.3 m          | 1.5 m              |
| Distance from obstructions on roof                                   | None                                  | None           | None           | None           | None               |
| Distance from obstructions not on roof                               | None                                  | None           | None           | None           | None               |
| Distance from trees  | None                                  | None           | None           | None           | None               |
| Unrestricted airflow   | 360°                                  | 360°           | 360°           | 360°           | 360°               |
| Probe material   | Glass & Teflon                        | Glass & Teflon | Glass & Teflon | Glass & Teflon | N/A                |
| Residence time   | 6.7 s                                 | 8.1 s          | 7.4 s          | 6.7 s          | N/A                |
| Is it suitable for comparison against the annual PM2.5?              | N/A                                   | N/A            | N/A            | N/A            | N/A                |
| Frequency of flow rate verification for manual PM samplers audit     | N/A                                   | N/A            | N/A            | N/A            | Monthly            |
| Frequency of flow rate verification for automated PM analyzers audit | N/A                                   | N/A            | N/A            | N/A            | N/A                |
| Frequency of one-point QC check (gaseous)                            | Weekly                                | Weekly         | Weekly         | Weekly         | N/A                |
| Last annual performance evaluation (gaseous)                         | 7/22/08                               | 7/22/08        | 7/22/08        | 7/22/08        | N/A                |
| Last two semi-annual flow rate audits for PM monitors                | N/A                                   | N/A            | N/A            | N/A            | 7/22/08            |

Table 5.9  
Lompoc Odor Monitoring Station Details

|  |   |                |  |  |  |
|--|---|----------------|--|--|--|
| <b>Site Name</b>                             | <b>Lompoc Odor</b>                      |                |  |  |  |
| AQS ID                                       | 060831022                               |                |  |  |  |
| GIS coordinates                              | Lat 34° 43' 08.37" Long 120° 25' 57.94" |                |  |  |  |
| Location                                     | Located near an oil processing facility |                |  |  |  |
| Address                                      | 2988 Harris Grade Rd, Lompoc, CA 93436  |                |  |  |  |
| County                                       | Santa Barbara County                    |                |  |  |  |
| Dist. to road                                | 1000 meters                             |                |  |  |  |
| Traffic count                                | 100 Vehicles per day                    |                |  |  |  |
| Groundcover                                  | Dirt                                    |                |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)   |                |  |  |  |
| <b>Pollutant</b>                             | <b>H2S</b>                              | <b>TRS</b>     |  |  |  |
| Sampling method                              | TEI 45C                                 | TEI 43i        |  |  |  |
| Analysis method                              | N/A                                     | N/A            |  |  |  |
| Start date                                   | 2/1/88                                  | 2/1/88         |  |  |  |
| Operation schedule                           | Continuous                              | Continuous     |  |  |  |
| Sampling season                              | All Year                                | All Year       |  |  |  |
| Probe height                                 | 3.5                                     | 3.5            |  |  |  |
| Distance from supporting structure           | 1.1                                     | 1.1            |  |  |  |
| Distance from obstructions on roof           | None                                    | None           |  |  |  |
| Distance from obstructions not on roof       | None                                    | None           |  |  |  |
| Distance from trees                          | None                                    | None           |  |  |  |
| Unrestricted airflow                         | 360°                                    | 360°           |  |  |  |
| Probe material                               | Glass & Teflon                          | Glass & Teflon |  |  |  |
| Residence time                               | 12.0 s                                  | 12.0 s         |  |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-Weekly                               | Bi-Weekly      |  |  |  |
| Last annual performance evaluation (gaseous) | 11/13/08                                | 11/13/08       |  |  |  |

Table 5.10  
Nojoqui Monitoring Station Details

|  |   |                |  |  |  |
|--|---|----------------|--|--|--|
| <b>Site Name</b>                             | <b>Nojoqui</b>  |                |  |  |  |
| AQS ID                                       | 060831018   |                |  |  |  |
| GIS coordinates                              | Lat 34° 31' 38.9" Long 120° 11' 47.4"                     |                |  |  |  |
| Location                                     | Located at the top of Nojoqui pass just off of US Hwy 101 |                |  |  |  |
| Address                                      | US Hwy 101 & Nojoqui Pass, Gaviota Ca 93117               |                |  |  |  |
| County                                       | Santa Barbara County                                      |                |  |  |  |
| Dist. to road                                | 200 meters  |                |  |  |  |
| Traffic count                                | 30000 Vehicles per day                                    |                |  |  |  |
| Groundcover                                  | Grass   |                |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)                     |                |  |  |  |
| <b>Pollutant</b>                             | <b>O3</b>   | <b>NO2</b>     |  |  |  |
| Sampling method                              | TAPI 400e   | TEI 42i        |  |  |  |
| Analysis method                              | N/A   | N/A            |  |  |  |
| Start date                                   | 7/1/87  | 7/1/87         |  |  |  |
| Operation schedule                           | Continuous  | Continuous     |  |  |  |
| Sampling season                              | All Year  | All Year       |  |  |  |
| Probe height                                 | 3.0 m   | 3.0 m          |  |  |  |
| Distance from supporting structure           | 1.0 m   | 1.0 m          |  |  |  |
| Distance from obstructions on roof           | None  | None           |  |  |  |
| Distance from obstructions not on roof       | None  | None           |  |  |  |
| Distance from trees                          | None  | None           |  |  |  |
| Unrestricted airflow                         | 360°  | 360°           |  |  |  |
| Probe material                               | Glass & Teflon  | Glass & Teflon |  |  |  |
| Residence time                               | 12.6 s  | 15.2 s         |  |  |  |
| Frequency of one-point QC check (gaseous)    | Weekly  | Weekly         |  |  |  |
| Last annual performance evaluation (gaseous) | 4/17/08   | 4/17/08        |  |  |  |

Table 5.11  
Paradise Road Monitoring Station Details

|  |  |                |  |  |  |
|--|--|----------------|--|--|--|
| <b>Site Name</b>                             | <b>Paradise Road</b>                                     |                |  |  |  |
| AQS ID                                       | 060831014  |                |  |  |  |
| GIS coordinates                              | Lat 34° 32' 39.97" Long 119° 47' 29.27"                  |                |  |  |  |
| Location                                     | Located in Los Padres National Forest off of Paradise Rd |                |  |  |  |
| Address                                      | Paradise Road, Los Padres National Forrest CA 93105      |                |  |  |  |
| County                                       | Santa Barbara County                                     |                |  |  |  |
| Dist. to road                                | 800 meters   |                |  |  |  |
| Traffic count                                | 100 Vehicles per day                                     |                |  |  |  |
| Groundcover                                  | Trees and brush  |                |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)                    |                |  |  |  |
| <b>Pollutant</b>                             | <b>O3</b>  | <b>NO2</b>     |  |  |  |
| Sampling method                              | TEI 49i  | TEI 42i        |  |  |  |
| Analysis method                              | N/A  | N/A            |  |  |  |
| Start date                                   | 1/1/86   | 1/1/86         |  |  |  |
| Operation schedule                           | Continuous   | Continuous     |  |  |  |
| Sampling season                              | All Year   | All Year       |  |  |  |
| Probe height                                 | 5.0 m  | 5.0 m          |  |  |  |
| Distance from supporting structure           | 1.8 m  | 1.8 m          |  |  |  |
| Distance from obstructions on roof           | None   | None           |  |  |  |
| Distance from obstructions not on roof       | None   | None           |  |  |  |
| Distance from trees                          | 20 m   | 20 m           |  |  |  |
| Unrestricted airflow                         | 360°   | 360°           |  |  |  |
| Probe material                               | Glass & Teflon   | Glass & Teflon |  |  |  |
| Residence time                               | 7.0 s  | 10.0 s         |  |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-weekly  | Bi-weekly      |  |  |  |
| Last annual performance evaluation (gaseous) | 11/6/08  | 11/6/08        |  |  |  |

Table 5.12  
Santa Barbara Monitoring Station Details

|  |  |                       |              |             |  |
|--|--|-----------------------|--------------|-------------|--|
| <b>Site Name</b>   | <b>Santa Barbara</b>                         |                       |              |             |  |
| AQS ID   | 060830011                                    |                       |              |             |  |
| GIS coordinates  | Lat 34° 25' 39.76" Long 119° 41' 27.04"      |                       |              |             |  |
| Location   | In parking lot of the National Guard Armory  |                       |              |             |  |
| Address  | 700 E. Canon Perdido, Santa Barbara CA 93103 |                       |              |             |  |
| County   | Santa Barbara County                         |                       |              |             |  |
| Dist. to road  | 35 meters                                    |                       |              |             |  |
| Traffic count  | 10000 Vehicles per day                       |                       |              |             |  |
| Groundcover  | Asphalt                                      |                       |              |             |  |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)        |                       |              |             |  |
| <b>Pollutant</b>   | <b>O3</b>                                    | <b>PM2.5</b>          | <b>PM2.5</b> | <b>PM10</b> |  |
| Sampling method  | TAPI 400                                     | R & P 2000            | BAM 1020     | BAM 1020    |  |
| Analysis method  | N/A  | Weighed by VCAPCD lab | N/A          | N/A         |  |
| Start date   | 5/1/02                                       | 5/1/02                | 5/1/02       | 5/1/02      |  |
| Operation schedule   | Continuous                                   | 1 in 6 day            | Continuous   | Continuous  |  |
| Sampling season  | All Year                                     | All Year              | All Year     | All Year    |  |
| Probe height   | 6.0 m  | 7.0 m                 | 7.0 m        | 7.0 m       |  |
| Distance from supporting structure                                   | 2.5 m  | 2.0 m                 | 2.0 m        | 2.0 m       |  |
| Distance from obstructions on roof                                   | None   | None                  | None         | None        |  |
| Distance from obstructions not on roof                               | None   | None                  | None         | None        |  |
| Distance from trees  | None   | None                  | None         | None        |  |
| Unrestricted airflow   | 360°   | 360°                  | 360°         | 360°        |  |
| Probe material   | Glass & Teflon                               | N/A                   | N/A          | N/A         |  |
| Residence time   | 4.9 s  | N/A                   | N/A          | N/A         |  |
| Is it suitable for comparison against the annual PM2.5?              | N/A  | Yes                   | No           | No          |  |
| Frequency of flow rate verification for manual PM samplers audit     | N/A  | Monthly               | N/A          | N/A         |  |
| Frequency of flow rate verification for automated PM analyzers audit | N/A  | Monthly               | Bi-Weekly    | Bi-Weekly   |  |
| Frequency of one-point QC check (gaseous)                            | Bi-weekly                                    | N/A                   | N/A          | N/A         |  |
| Last annual performance evaluation (gaseous)                         | 4/23/08                                      | N/A                   | N/A          | N/A         |  |
| Last two semi-annual flow rate audits for PM monitors                | N/A  | 4/23/08               | 4/23/08      | 4/23/08     |  |

Table 5.13  
Santa Maria Monitoring Station Details

|   |  |                                   |              |                   |  |
|---|--|-----------------------------------|--------------|-------------------|--|
| <b>Site Name</b>  | <b>Santa Maria</b>                               |                                   |              |                   |  |
| AQS ID  | 060831008  |                                   |              |                   |  |
| GIS coordinates   | Lat 34° 56 34.31Long 120° 26' 8.25"              |                                   |              |                   |  |
| Location  | Located on second floor of small office building |                                   |              |                   |  |
| Address   | 906 S. Broadway, Santa Maria CA 93454            |                                   |              |                   |  |
| County  | Santa Barbara County                             |                                   |              |                   |  |
| Dist. to road   | 60 meters  |                                   |              |                   |  |
| Traffic count   | 30000 Vehicles per day                           |                                   |              |                   |  |
| Groundcover   | Roof   |                                   |              |                   |  |
| Representative area   | MSA (Santa Barbara – Santa Maria, CA)            |                                   |              |                   |  |
| <b>Pollutant</b>  | <b>O3</b>  | <b>PM2.5</b>                      | <b>PM2.5</b> | <b>PM10</b>       |  |
| Sampling method   | TAPI 400   | R & P 2000                        | BAM 1020     | And. 1200         |  |
| Analysis method   | N/A  | Weighed by<br>Ventura<br>APCD lab | N/A          | Weighed by<br>ARB |  |
| Start date  | 5/1/99   | 5/1/99                            | 5/1/99       | 5/1/99            |  |
| Operation schedule  | Continuous                                       | 1 in 6 day                        | Continuous   | 1 in 6 day        |  |
| Sampling season   | All Year   | All Year                          | All Year     | All Year          |  |
| Probe height  | 9.0 m  | 9.0 m                             | 9.0 m        | 9.0 m             |  |
| Distance from<br>supporting structure   | 3.0 m  | 2.0 m                             | 2.0 m        | 2.0 m             |  |
| Distance from<br>obstructions on roof   | None   | None                              | None         | None              |  |
| Distance from<br>obstructions not on<br>roof                                  | None   | None                              | None         | None              |  |
| Distance from trees   | None   | None                              | None         | None              |  |
| Unrestricted airflow  | 360°   | 360°                              | 360°         | 360°              |  |
| Probe material  | Glass &<br>Teflon                                | N/A                               | N/A          | N/A               |  |
| Residence time  | 6.1 s  | N/A                               | N/A          | N/A               |  |
| Is it suitable for<br>comparison against<br>the annual PM2.5?                 | N/A  | Yes                               | No           | No                |  |
| Frequency of flow rate<br>verification for manual<br>PM samplers audit        | N/A  | Monthly                           | N/A          | Monthly           |  |
| Frequency of flow rate<br>verification for<br>automated PM<br>analyzers audit | N/A  | Monthly                           | Bi-Weekly    | N/A               |  |
| Frequency of one-<br>point QC check<br>(gaseous)                              | Bi-weekly  | N/A                               | N/A          | N/A               |  |
| Last annual<br>performance<br>evaluation (gaseous)                            | 7/17/08  | N/A                               | N/A          | N/A               |  |
| Last two semi-annual<br>flow rate audits for PM<br>monitors                   | N/A  | 7/17/08                           | 7/17/08      | 7/17/08           |  |

Table 5.14  
Santa Ynez Monitoring Station Details

|  |                                       |  |  |  |  |
|--|---------------------------------------|--|--|--|--|
| <b>Site Name</b>                             | <b>Santa Ynez</b>                     |  |  |  |  |
| AQS ID                                       | 060833001                             |  |  |  |  |
| GIS coordinates                              | Lat 34° 36' 30.2" Long 120° 4' 29.0"  |  |  |  |  |
| Location                                     | Santa Ynez airport office building    |  |  |  |  |
| Address                                      | 900 Airport Rd., Santa Ynez, CA       |  |  |  |  |
| County                                       | Santa Barbara County                  |  |  |  |  |
| Dist. to road                                | 600 meters                            |  |  |  |  |
| Traffic count                                | 7000 Vehicles per day                 |  |  |  |  |
| Groundcover                                  | Grass                                 |  |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA) |  |  |  |  |
| <b>Pollutant</b>                             | <b>O3</b>                             |  |  |  |  |
| Sampling method                              | TAPI 400e                             |  |  |  |  |
| Analysis method                              | N/A                                   |  |  |  |  |
| Start date                                   | 1/1/1980                              |  |  |  |  |
| Operation schedule                           | Continuous                            |  |  |  |  |
| Sampling season                              | All Year                              |  |  |  |  |
| Probe height                                 | 5.5 m                                 |  |  |  |  |
| Distance from supporting structure           | 2.0 m                                 |  |  |  |  |
| Distance from obstructions on roof           | None                                  |  |  |  |  |
| Distance from obstructions not on roof       | None                                  |  |  |  |  |
| Distance from trees                          | 5 m                                   |  |  |  |  |
| Unrestricted airflow                         | 360°                                  |  |  |  |  |
| Probe material                               | Glass & Teflon                        |  |  |  |  |
| Residence time                               | 16.5 s                                |  |  |  |  |
| Frequency of one-point QC check (gaseous)    | Weekly                                |  |  |  |  |
| Last annual performance evaluation (gaseous) | 4/15/08                               |  |  |  |  |

Table 5.15  
UCSB West Campus Monitoring Station Details

|  |  |                |                |                |  |
|--|--|----------------|----------------|----------------|--|
| <b>Site Name</b>                             | <b>UCSB West Campus</b>                    |                |                |                |  |
| AQS ID                                       | 060831020                                  |                |                |                |  |
| GIS coordinates                              | Lat 34° 24' 53.79" Long 119° 52' 46.24"    |                |                |                |  |
| Location                                     | Located West of Deverouix slough near UCSB |                |                |                |  |
| Address                                      | UCSB West Campus, Santa Barbara, CA        |                |                |                |  |
| County                                       | Santa Barbara County                       |                |                |                |  |
| Dist. to road                                | 0 meters                                   |                |                |                |  |
| Traffic count                                | 0 Vehicles per day                         |                |                |                |  |
| Groundcover                                  | Grass                                      |                |                |                |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)      |                |                |                |  |
| <b>Pollutant</b>                             | <b>SO2</b>                                 | <b>H2S</b>     | <b>TRS</b>     | <b>THC</b>     |  |
| Sampling method                              | TEI 43c                                    | TEI 43a        | TEI 43a        | Beckman 400a   |  |
| Analysis method                              | N/A  | N/A            | N/A            | N/A            |  |
| Start date                                   | 6/1/99                                     | 6/1/99         | 6/1/99         | 6/1/99         |  |
| Operation schedule                           | Continuous                                 | Continuous     | Continuous     | Continuous     |  |
| Sampling season                              | All Year                                   | All Year       | All Year       | All Year       |  |
| Probe height                                 | 3.5  | 3.5            | 3.5            | 3.5            |  |
| Distance from supporting structure           | 1.1  | 1.1            | 1.1            | 1.1            |  |
| Distance from obstructions on roof           | None                                       | None           | None           | None           |  |
| Distance from obstructions not on roof       | None                                       | None           | None           | None           |  |
| Distance from trees                          | None                                       | None           | None           | None           |  |
| Unrestricted airflow                         | 360°                                       | 360°           | 360°           | 360°           |  |
| Probe material                               | Glass & Teflon                             | Glass & Teflon | Glass & Teflon | Glass & Teflon |  |
| Residence time                               | 14.9 s                                     | 14.9 s         | 14.9 s         | 14.9 s         |  |
| Frequency of one-point QC check (gaseous)    | Bi-Weekly                                  | Bi-Weekly      | Bi-Weekly      | Bi-Weekly      |  |
| Last annual performance evaluation (gaseous) | 5/1/08                                     | 5/1/08         | 5/1/08         | 5/1/08         |  |

Table 5.16  
VAFB STS Monitoring Station Details

|  |  |                |                |                |                    |
|--|--|----------------|----------------|----------------|--------------------|
| <b>Site Name</b>   | <b>VAFB STS</b>  |                |                |                |                    |
| AQS ID   | 060834003  |                |                |                |                    |
| GIS coordinates  | Lat 34° 35' 45.10" Long 120° 37' 52.86"                    |                |                |                |                    |
| Location   | Coastal hillside east of a gas turbine peaking power plant |                |                |                |                    |
| Address  | South VAFB, Vandenberg AFB, CA                             |                |                |                |                    |
| County   | Santa Barbara County                                       |                |                |                |                    |
| Dist. to road  | 1000 meters  |                |                |                |                    |
| Traffic count  | 1000 Vehicles per day                                      |                |                |                |                    |
| Groundcover  | Grass  |                |                |                |                    |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)                      |                |                |                |                    |
| <b>Pollutant</b>   | <b>O3</b>  | <b>NO2</b>     | <b>SO2</b>     | <b>CO</b>      | <b>PM10</b>        |
| Sampling method  | TAPI 400e  | TAPI 200e      | TAPI 100e      | TAPI 300       | SA 1200            |
| Analysis method  | N/A  | N/A            | N/A            | N/A            | Weighed by SBCAPCD |
| Start date   | 6/1/88   | 6/1/88         | 6/1/88         | 6/1/88         | 6/1/88             |
| Operation schedule   | Continuous   | Continuous     | Continuous     | Continuous     | 1 in 6 day         |
| Sampling season  | All Year   | All Year       | All Year       | All Year       | All Year           |
| Probe height   | 4.5 m  | 4.5 m          | 4.5 m          | 4.5 m          | 5.0 m              |
| Distance from supporting structure                               | 1.0 m  | 1.0 m          | 1.0 m          | 1.0 m          | 1.5 m              |
| Distance from obstructions on roof                               | None   | None           | None           | None           | None               |
| Distance from obstructions not on roof                           | None   | None           | None           | None           | None               |
| Distance from trees  | None   | None           | None           | None           | None               |
| Unrestricted airflow   | 360°   | 360°           | 360°           | 360°           | 360°               |
| Probe material   | Glass & Teflon   | Glass & Teflon | Glass & Teflon | Glass & Teflon | N/A                |
| Residence time   | 11.2 s   | 11.5 s         | 10.6 s         | 10.0 s         | N/A                |
| Frequency of flow rate verification for manual PM samplers audit | N/A  | N/A            | N/A            | N/A            | Monthly            |
| Frequency of one-point QC check (gaseous)                        | Weekly   | Weekly         | Weekly         | Weekly         | N/A                |
| Last annual performance evaluation (gaseous)                     | 7/24/08  | 7/24/08        | 7/24/08        | 7/24/08        | N/A                |
| Last two semi-annual flow rate audits for PM monitors            | N/A  | N/A            | N/A            | N/A            | 7/24/08            |

## Glossary of Acronyms

|                   |  |
|-------------------|--|
| AQS               | Air quality system                                   |
| ARB               | Air Resources Board                                  |
| ARM               | Approved regional method                             |
| CARB              | California Air Resources Board                       |
| CFR               | Code of Federal Regulations                          |
| CO                | Carbon monoxide                                      |
| FEM               | Federal equivalent method                            |
| FRM               | Federal reference method                             |
| H <sub>2</sub> S  | Hydrogen Sulfide                                     |
| MSA               | Metropolitan statistical area                        |
| NAAQS             | National ambient air quality standard                |
| NO <sub>2</sub>   | Nitrogen dioxide                                     |
| O <sub>3</sub>    | Ozone  |
| PM <sub>10</sub>  | Particulate matter less than 10 microns in diameter  |
| PM <sub>2.5</sub> | Particulate matter less than 2.5 microns in diameter |
| PSD               | Prevention of significant deterioration              |
| SBCAPCD           | Santa Barbara County Air Pollution Control District  |
| SLAMS             | State and Local Air Monitoring Station               |
| SO <sub>2</sub>   | Sulfur dioxide                                       |
| SPM               | Special purpose monitor                              |
| THC               | Total hydrocarbons                                   |
| TRS               | Total reduced sulfur                                 |
| US EPA            | United States Environmental Protection Agency        |

## APPENDIX A

### Regulatory language of 40 CFR 58.10

#### **§ 58.10 Annual monitoring network plan and periodic network assessment.**

(a)(1) Beginning July 1, 2007, the State, or where applicable local, agency shall adopt and submit to the Regional Administrator an annual monitoring network plan which shall provide for the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations. The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA.

(2) Any annual monitoring network plan that proposes SLAMS network modifications including new monitoring sites is subject to the approval of the EPA Regional Administrator, who shall provide opportunity for public comment and shall approve or disapprove the plan and schedule within 120 days. If the State or local agency has already provided a public comment opportunity on its plan and has made no changes subsequent to that comment opportunity, the Regional Administrator is not required to provide a separate opportunity for comment.

(3) The plan for establishing required NCore multi-pollutant stations shall be submitted to the Administrator not later than July 1, 2009. The plan shall provide for all required stations to be operational by January 1, 2011.

(b) The annual monitoring network plan must contain the following information for each existing and proposed site:

- (1) The AQS site identification number.
- (2) The location, including street address and geographical coordinates.
- (3) The sampling and analysis method(s) for each measured parameter.
- (4) The operating schedules for each monitor.

(5) Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.

(6) The monitoring objective and spatial scale of representativeness for each monitor as defined in appendix D to this part.

(7) The identification of any sites that are suitable and sites that are not suitable for comparison against the annual  $PM_{2.5}$  NAAQS as described in §58.30.

(8) The MSA, CBSA, CSA or other area represented by the monitor.

(c) The annual monitoring network plan must document how States and local agencies provide for the review of changes to a  $PM_{2.5}$  monitoring network that impact the location of a violating  $PM_{2.5}$  monitor or the creation/change to a community monitoring zone, including a description of the proposed use of spatial averaging for purposes of making comparisons to the annual  $PM_{2.5}$  NAAQS as set forth in appendix N to part 50 of this chapter. The affected State or local agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.

(d) The State, or where applicable local, agency shall perform and submit to the EPA Regional Administrator an assessment of the air quality surveillance system every 5 years to determine, at a minimum, if the network meets the monitoring objectives defined in appendix D to this part, whether new sites are needed, whether existing sites are no longer needed and can be terminated, and whether new technologies are appropriate for incorporation into the ambient air monitoring network. The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., children with asthma), and, for any sites that are being proposed for discontinuance, the effect on data users other than the agency itself, such as nearby States and Tribes or health effects studies. For  $PM_{2.5}$ , the assessment also must identify needed changes to population-oriented sites. The State, or where applicable local, agency must submit a copy of this 5-year assessment, along with a revised annual network plan, to the Regional Administrator. The first assessment is due July 1, 2010.

(e) All proposed additions and discontinuations of SLAMS monitors in annual monitoring network plans and periodic network assessments are subject to approval according to §58.14.