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1.1 PURPOSE

Clean air is a valuable and essential resource which affects many aspects of our daily lives. It is vital to our health and welfare, to the local agricultural economy, and to the aesthetic beauty and quality of life enjoyed by county residents. The capacity of the air to absorb environmental contaminants is limited, however, and must be managed wisely to avoid significant deterioration of the resource.

The 2001 Clean Air Plan (CAP or Plan) for San Luis Obispo County addresses the attainment and maintenance of state and federal ambient air quality standards. These standards are adopted to protect public health, vegetation, materials and visibility. State standards for ozone and fine particulate matter (PM10) are currently exceeded within the District, and violation of federal standards may occur in future years without adequate planning and air quality management.

Ozone is a colorless and highly reactive gas. It is created naturally in the stratosphere, high above the earth, where it forms a protective shield which absorbs damaging ultra-violet radiation from the sun before it reaches the ground. However, in the lower atmosphere ozone is a serious pollutant, formed through complex chemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NOx) in the presence of sunlight. In San Luis Obispo County, the primary sources of ROG are motor vehicles, organic solvents, the petroleum industry and pesticides. Major sources of NOx are motor vehicles, public utility power generation and fuel combustion by various industrial sources.

Ozone can damage vegetation and cause rubber to crack at relatively low concentrations. At higher concentrations, ozone can impact public health by directly affecting the lungs, causing respiratory irritation and changes in lung function. Asthma, bronchitis and other respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to ozone. When ozone levels are high, people with respiratory and cardiac difficulties, the elderly and children are advised to remain indoors. Outdoor exercise by healthy adults is also discouraged since strenuous activity may cause shortness of breath and chest pains.

Although breathing impairment is the primary and most noticeable health effect, symptoms of sore throat, nausea or dizziness, coughing and headaches may occur in healthy individuals exposed to high ozone concentrations. Such effects are generally temporary if the duration of exposure is limited. However, recent studies have shown that routine exposure to lower concentrations of ozone can cause chronic lung damage in children; permanent reductions in lung capacity of up to 50% have been measured.

Ozone is also a serious threat to California agriculture and native vegetation due to its pervasive nature. Many sensitive plant species are known to suffer damage at concentrations below human health standards. Ozone interferes with photosynthesis by attacking leaves, causing them to yellow, develop dead areas and drop prematurely. With many crop varieties ozone stunts growth, reduces yields, or causes aesthetic damage which lowers market value. Many of the crops grown within this county are particularly sensitive to ozone injury, including orchard crops, lettuce and several grape varieties. The state Air Resources Board (ARB) has determined that ozone pollution costs California farmers and consumers over \$500 million each year in reduced crop yields.

Atmospheric particulate matter is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes and mists. The particles of primary concern are fine particulate matter less than ten microns in diameter (PM10). These small particles have the greatest likelihood of being inhaled deep into the lungs. A variety of human activities can generate PM10 emissions including agricultural operations, industrial processes, combustion of fossil fuels, construction and demolition operations, and entrainment of road dust into the atmosphere. Natural sources of PM10 include wind blown dust, wildfire smoke, and salt from sea spray.

The 2001 Plan primarily addresses the ozone nonattainment problem. It is a comprehensive planning document intended to provide guidance to the Air Pollution Control District, the county, and other local agencies on how to attain and maintain the state standard for ozone. The Plan presents a detailed description of the sources and pollutants which impact the county, future air quality impacts to be expected under current growth trends, and an appropriate control strategy for reducing ozone precursor emissions, thereby improving air quality.

Most of the ozone control measures described in this Plan have already been implemented through previous planning efforts. Many of these measures provide a secondary benefit of reducing ambient PM10 levels by reducing ROG and NOx emissions. ROG and NOx can be transformed in the atmosphere to aerosols, a major constituent of PM10. The District expects to formally address PM10 nonattainment in future planning efforts.

1.2 PREVIOUS PLANNING EFFORTS

In 1978 San Luis Obispo County was designated a federal nonattainment area due to periodic violations of the 0.08 parts per million (ppm) federal oxidant standard; the Salinas River Valley portion of the county was further designated nonattainment for the federal secondary standard for particulate matter. With the San Luis Obispo Area Council of Governments acting as lead agency, the County prepared an Air Quality Attainment and Maintenance Plan (AQAMP) in 1979 as required by federal law. This Plan was the first comprehensive air quality planning effort in San Luis Obispo county. It proposed the adoption and implementation of an extensive set of stationary source and transportation control measures designed to attain the primary federal oxidant standard by the end of 1987.

Just after adoption of the 1979 AQAMP, the federal Environmental Protection Agency (EPA) changed the 0.08 ppm oxidant standard to a 0.12 ppm ozone standard. Because there had been no violations of the revised standard within the previous three years, San Luis Obispo County then qualified for redesignation as an attainment area for ozone. The Area Council of Governments and the ARB agreed that adoption and implementation of the AQAMP was still important to maintain attainment in view of the projected increase in population and industrial emissions. However, without a regulatory mandate for implementation, less than half of the proposed stationary source controls were adopted. Only 4 of the 18 recommended transportation controls were implemented, primarily through state or local programs.

In 1989, San Luis Obispo County was designated a nonattainment area for the state ozone and PM10 standards. State law requires the District to develop a plan designed to achieve the state standards by the earliest practical date; this plan must be updated every three years. The 1991 Clean Air Plan (CAP) was adopted by the Air Pollution Control District Board in January, 1992, and was approved by the Air Resources Board in August of 1992. The 1991 CAP contained 44 control measures designed to reduce ozone precursor emissions from a wide variety of stationary and mobile sources and bring the county into attainment of the state ozone standard by the end of 1997. Comprehensive updates of the CAP were completed in 1995 and 1998.

1.3 AUTHORITY FOR CURRENT AIR QUALITY PLANNING

Federal Clean Air Act Amendments

Air quality protection at the national level is provided through the federal Clean Air Act Amendments (CAAA). The most current version was signed into law by President Bush on November 15, 1990. These amendments represent the fifth major effort by the U.S. Congress to improve air quality. The 1990 CAAA is generally less stringent than the California Clean Air Act. However, unlike the California law, the CAAA sets statutory deadlines for attaining federal standards.

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The 1990 Amendments added several new sections to the law, including requirements for the control of toxic air contaminants; reductions in pollutants responsible for acid deposition; development of a national strategy for stratospheric ozone and global climate protection; and requirements for a national permitting system for major pollution sources. In addition, the 1990 CAAA transfers authority for regulation of air quality on the Outer Continental Shelf from the Minerals Management Service to the EPA. The law allows local APCDs to apply to EPA for delegation of that authority. Our District applied for and was granted such authority in 1994.

San Luis Obispo County has been designated as attainment or unclassified for the federal air quality standards and is not mandated to develop a federal nonattainment plan. However, some rules and regulations adopted by the District are submitted to the ARB for inclusion in the State Implementation Plan (SIP), which defines the measures to be implemented throughout the state to ensure expeditious attainment of the national ambient air quality standards. Thus, some of the control strategies proposed in this document may ultimately become part of the SIP following their adoption as District rules.

California Clean Air Act

The California Clean Air Act (CCAA) was signed into law in September of 1988. It requires all areas of the state to achieve and maintain the California ambient air quality standards by the earliest practicable date. These standards are generally more stringent than the federal standards; thus, emission controls to comply with the state law are more stringent than necessary for attainment of the federal standard. State and federal standards for ozone and other pollutants are presented in Table 3-1.

The ARB has formally designated all air pollution control districts as attainment or nonattainment for each state air quality standard. Nonattainment designations are further categorized into four levels of severity: moderate, serious, severe and extreme. For districts identified as receptors of transported pollutants from other areas, these definitions are based on violations which would still occur without the transport contribution. San Luis Obispo was classified as a serious ozone nonattainment area for the 1991 planning effort. However, amendments to the CCAA enacted in January of 1993 resulted in our reclassification to a moderate nonattainment status.

Districts designated nonattainment for the state ozone, carbon monoxide, sulfur dioxide, or nitrogen dioxide standards must prepare attainment plans or attainment plan updates every three years and submit them to the ARB for approval. Areas designated nonattainment for PM10, sulfates, lead, hydrogen sulfide, or visibility are not expressly required to develop attainment plans for those pollutants. However, the mandate to achieve and maintain the standards applies to all nonattainment pollutants and their precursors. Thus, all reasonable actions possible should be taken to meet those pollutant standards not specifically addressed in the attainment plans.

Under the Act, the ARB and APCD's share primary responsibility for improving air quality. Regulatory agencies are to pursue new and better controls of pollution sources in their respective jurisdictions. The extent of the planning effort depends on the severity classification, with higher classifications having progressively more stringent requirements. As a moderate nonattainment area for ozone, San Luis Obispo county is required to implement the following:

- Application of Best Available Control Technology for any new or modified stationary source with the potential to emit 25 pounds/day of any nonattainment pollutants or their precursor. The District's permitting program must also be designed to allow no net increase in emissions of nonattainment pollutants or their precursors from new or modified stationary sources which emit or have the potential to emit 25 tons per year or more of nonattainment pollutants or their precursors. (Health & Safety Code 40918(a)(1)).

- Application of Best Available Retrofit Control Technology to existing sources which emit 5 tons or more per day, or 250 tons or more per year; application of Reasonably Available Control Technology for all other existing emission sources (H&SC 40918(a)(2)).
- Implement reasonably available transportation control measures sufficient to substantially reduce the growth rate of motor vehicle trips and miles traveled (H&SC 40918(a)(3)).
- Development of control programs for area sources (e.g., industrial coatings and solvents) and indirect sources (e.g., increased automobile emissions from new residential and commercial development) (H&SC 40918(a)(4)).
- Sufficient control strategies to achieve at least a 5% per year reduction in both ROG and NO_x emissions countywide, averaged every consecutive 3-year period; at least a 20% overall reduction in both pollutants compared to 1990 emission levels (H&SC 40914).
- Preparation of annual progress reports for submittal to ARB, with a comprehensive plan update in December 1994 and every three years thereafter until attainment is reached (H&SC 40924).
- Moderate nonattainment areas that are not below the pollutant concentrations for a moderate classification by December 31, 1997, shall comply with the control requirements for a serious nonattainment area if the ARB demonstrates that the additional requirements will substantially expedite the district's attainment of the state ambient air quality standards. (H&SC 40918(b)). (ARB has determined that such additional requirements will not substantially expedite our attainment efforts.)

These requirements must be implemented to the extent necessary to achieve and maintain the state ozone standard by the earliest practicable date. The 2001 Clean Air Plan for San Luis Obispo County is designed to meet these requirements.

San Luis Obispo County Resource Management System

Air quality has been identified as a limiting resource in the Resource Management System (RMS) of the San Luis Obispo County General Plan. The RMS is an information tool used by the County to balance land development with the resources necessary to sustain such development. The focus of the RMS is on data collection, problem identification and development of appropriate solutions. When a deficiency becomes evident, three courses are available to avoid jeopardizing public health or welfare: the resource capacity may be expanded; the rate of depletion may be slowed using conservation measures; or, development may be restricted or redirected to areas with remaining resource capacity.

The RMS utilizes three alert levels to identify the severity of a resource deficiency. Level I occurs when sufficient lead time exists to either expand the capacity of the resource or decrease its rate of depletion. Level II identifies the crucial point at which some moderation of the rate of resource use must occur to prevent exceeding the resource capacity. Level III indicates that the demand for the resource equals or exceeds the supply.

The formal designation of the county as a nonattainment area for the state ozone standard triggered an RMS Level II alert, based on criteria adopted by the San Luis Obispo County Board of Supervisors. Level II status requires the development of a resource capacity study. The Clean Air Plan serves as the resource capacity study for air quality by identifying the causes and extent of the existing problem and by recommending appropriate corrective actions.

1.4 RESPONSIBILITIES OF AFFECTED AGENCIES

Numerous agencies with direct and indirect interest in air quality participate in the planning process.

Environmental Protection Agency

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The EPA administers the federal Clean Air Act and other related legislation. As a regulatory agency, EPA's principal functions include setting federal ambient air quality standards; preparing guidance for and approval of State Implementation Plans to meet and/or maintain those standards; establishing national emission limits for major sources of air pollution; inspecting and monitoring emission sources, enforcing federal air quality laws, and promulgating new regulations; and, providing financial and technical support for air quality research and development programs.

The federal Clean Air Act requires EPA to review and approve state implementation plans. The California SIP is a compilation of individual plans developed at the regional or local level. Each of these plans is independently reviewed and approved by EPA prior to incorporation into the SIP.

California Air Resources Board

The California Air Resources Board is the state agency responsible for the coordination and administration of both state and federal air pollution control programs in California. The ARB undertakes research, sets state ambient air quality standards, provides technical assistance to local districts, compiles emission inventories, develops suggested control measures, and provides oversight of district control programs.

A key function of the ARB is to coordinate and guide regional and local air quality planning efforts required by the California Clean Air Act, and to prepare and submit the SIP to EPA. The ARB also establishes emission standards for motor vehicles. The federal Clean Air Act allows California to adopt more stringent vehicle emission standards than the rest of the nation due to our severe air pollution problem.

San Luis Obispo County Air Pollution Control District

The San Luis Obispo County Air Pollution Control District shares responsibility with the ARB for ensuring that all state and federal ambient air quality standards are achieved and maintained within the county. State law assigns to local districts the primary responsibility for control of air pollution from stationary sources, while reserving an oversight role for the ARB. This is typically accomplished through the adoption and implementation of rules and regulations. Generally, the districts must meet minimum state and EPA program requirements; in most instances, districts can implement more stringent regulations than EPA or the State require. The District is also responsible for the inspection of stationary sources, monitoring of ambient air quality, development and updating of attainment plans, and maintenance of the emission inventory. Districts in state nonattainment areas must also develop and implement reasonably available transportation control measures.

San Luis Obispo Council of Governments

The San Luis Obispo Council of Governments (SLOCOG) is a regional agency representing San Luis Obispo County and the incorporated cities. SLOCOG participates in the development of numerous regional plans, including housing and hazardous waste management. They also prepare employment and population forecasts which are used in regional planning programs. As the designated Metropolitan Planning Organization and Regional Transportation Planning Agency for San Luis Obispo County, SLOCOG is also responsible for developing and implementing the regional transportation plan, including coordination with the District on transportation control measures.

Cities and County

While the cities and county do not participate directly in developing the Clean Air Plan, local land use decisions affect air quality. This Plan contains several transportation control measures and land use management strategies designed to reduce the air quality impacts of urban development. The success of many of these measures is dependent on their adoption and implementation by the cities and county.

Another important function of these agencies is the preparation of population forecasts based on expectations of local growth and development. This data is used by the District to forecast population-related emissions (i.e. motor vehicles, gasoline dispensers, etc.). City and county planning agencies are required by law to determine that new development is consistent with the CAP prior to granting project approval.

Other Agencies and Organizations

Several other agencies and organizations also play important roles, directly or indirectly, in the air quality planning and implementation process. The California Department of Transportation (Caltrans) is responsible for many aspects of transportation planning and roadway development and maintenance in California. Caltrans has oversight over the Regional Transportation Plans and Congestion Management Plans developed by MPOs. SLO Regional Rideshare provides carpool and vanpool match-listing services and has a strong outreach program to inform and educate the business community and the general public on various transportation alternatives to the private vehicle. Several public and private transportation providers are currently operating in this county and offer convenient and safe alternatives to private vehicle travel; these include the local and regional transit agencies, Dial-a-Ride, Ride-On TMA and the Consolidated Transportation Services Agency (CTSA).

1.5 DEVELOPMENT AND ORGANIZATION OF THE 2001 CLEAN AIR PLAN

The 2001 Clean Air Plan is an update of the 1998 CAP and a status report on progress toward attainment of the state ozone standard. Many of the control measures identified in previous Plans have already been adopted and implemented. Thus, preparation of this update primarily involved re-analysis of long-term air quality trends to see where we stand; updating the baseline emissions inventory and emissions forecasts to incorporate the most current emission factors, growth projections and control information; and evaluating the effectiveness of measures already implemented to determine the potential timeframe for reaching attainment.

This 2001 Clean Air Plan is organized into chapters covering the general sequence of Plan development:

- CHAPTER 2 - PLANNING AREA AND AIR BASIN DESCRIPTION: Physical geography, land use and population distributions, and local and regional meteorology.
- CHAPTER 3 - EXISTING AIR QUALITY: The nature and extent of the ozone problem in San Luis Obispo County.
- CHAPTER 4 - 1991 REFERENCE YEAR EMISSIONS INVENTORY: Sources and distribution of ozone precursor (ROG and NO_x) emissions.
- CHAPTER 5 - STATIONARY SOURCE CONTROL PROGRAM: Methods for controlling emissions of ROG and NO_x from these sources.
- CHAPTER 6 - TRANSPORTATION AND LAND USE MANAGEMENT STRATEGIES: Methods for reducing motor vehicle emissions and use.
- CHAPTER 7 - EMISSION FORECASTS: Forecasts of ozone precursors to the year 2010 that include the effects of urban growth and proposed emission controls.
- CHAPTER 8 - PLAN IMPLEMENTATION: Agency responsibilities for Plan implementation and related issues.

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- CHAPTER 9 - PUBLIC INFORMATION AND EDUCATION: Development schedule for annual reports, Plan updates and an enhanced public education program.
- APPENDICES - Technical Appendices were prepared for various topics, providing supporting information for the body of the Plan. A list of the appendices is provided in the table of contents at the front of this document.