Release 97-04

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San Joaquin Valley Air Quality Study Final Report Released

SACRAMENTO - The San Joaquin Valley Air Quality Study Policy Committee has released its final report on the sources and formation of air pollution on the region's population and its economy.

Air Resources Board Chairman John Dunlap said, "This landmark effort brought together business, agriculture, environmental and government officials to better understand and improve the Central Valley's air quality. Through this cooperative effort, we will ensure that California's high environmental standards are maintained in the most efficient and practical manner, using the best available science."

The report, which results from the cooperative efforts of air quality experts, business and political leaders, provides advanced explanations of how the Valley's smog is formed and includes the most important information obtained to date from the ten year, $18 million research project. In addition, the project produced one of the world's most sophisticated computer models that estimates the effects of population growth, vehicle movement, climate and geography on the region's air pollution levels. Among the project's most important findings are:

reducing emissions in areas upwind from the Valley would not significantly alter ozone levels in the Valley's central and southern portions.

although cutting both nitrogen oxide (NOx) and hydrocarbon (HC) emissions will reduce peak ozone concentrations in most places throughout the Valley, cutting NOx emissions is generally more effective than reducing HC emissions at lowering ozone in most of the observed sites. However, in the Valley's northern sector, NOx reductions alone, without concurrent HC cuts could result in higher ozone concentrations.

Because of its ozone concentrations, the San Joaquin Valley was designated as an area with serious ozone levels. The 1994 State Implementation Plan, California's blueprint for attaining and maintaining healthy air quality, contains measures that when fully implemented are projected to attain national ambient ozone standards throughout the Valley by 1999.

Conceived in 1984 by Valley air quality experts, agriculture and business leaders, and public officials, the San Joaquin Valley Air Quality Study was designed to improve the understanding of the causes of high ozone episodes and to develop tools that allow decision makers to identify the most effective control strategies to reduce ozone levels to within national clean air standards. To assure that these objectives were met, the study included a set of technical objectives designed to achieve those goals. An extensive field measurement project was conducted in 1990 to gather emission and weather data to help

develop a computerized air quality model.

The comprehensive model is designed to identify the best methods for controlling air pollution throughout the study area's 77,538 square mile area (the size of New York, Massachusetts, Vermont, Rhode Island and Connecticut combined) that includes some of the world's most productive farmland and the state's richest oil fields. The model was designed to take into consideration the diverse geographic and atmospheric conditions that exist throughout the Valley and the potential effect that pollution formed in the Sacramento and San Francisco Bay areas has on San Joaquin Valley air quality. The model also includes information about the Valley's weather and air flow patterns in addition to data about population growth, local industrial emission sources and motor vehicle traffic.

Photochemical ozone is the chief component of smog and is formed when NOx and HC, primary emissions from motor vehicles and industrial activities, interact in sunlight. At levels found in the San Joaquin Valley, ozone can cause throat and lung irritation and may exacerbate existing pulmonary illnesses, such as asthma, bronchitis, emphysema and lung cancer. Also, ozone can affect the yield and weight of some of the Valley's most important cash crops including cotton, Thompson Seedless Grapes, Navel Oranges, nuts and some stonefruit. ARB research has determined that San Joaquin Valley agriculture loses nearly $1 billion per year from the effects of air pollution.

"The model uses air pollution and weather data gathered during the 1990 field research program to determine the best methods for improving the Valley's air quality to help meet national ozone standards as required in the 1994 State Implementation Plan," said Robert Cabral, San Joaquin Valley Unified APCD Board Chairman.

The Air Resources Board is a department of the California Environmental Protection Agency. ARB's mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy. The ARB oversees all air pollution control efforts in California to attain and maintain health based air quality standards.

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