

# **RECLAIM**

## **Program Summary**

**A Market Incentive Air Pollution Reduction  
Program for Nitrogen Oxides (NOx)  
and Sulfur Oxides (SOx)**



**South Coast Air Quality Management District**

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**South Coast  
AIR QUALITY MANAGEMENT DISTRICT**

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**January 31, 1994**

**Dear Partner in Clean Air:**

**The Regional Clean Air Incentives Market (RECLAIM) program is a bold innovative stride towards achieving clean air in Southern California. RECLAIM provides greater certainty in meeting public health standards while giving industry the power to implement the most cost-effective solution to reduce their emissions. These final reports represent the culmination of three years of work. Many industries, environmental groups, and other government agencies labored long hours with the District to design this flexible and lower cost "path to clean air."**

**The information contained herein represents the RECLAIM program as adopted by the District's Governing Board on October 15, 1993. Volume I contains summary information on the program design. Volume II contains supporting documentation for Volume I. Volume III includes the final Socioeconomic and Environmental Assessments, and Volumes IV and V contain the NO<sub>x</sub> and SO<sub>x</sub> protocols, respectively.**

**RECLAIM represents the best balance between environmental and socioeconomic impacts. It achieves emission reductions equivalent to the District's Air Quality Management Plan and provides equity and fairness among all sources.**

**Sincerely,**

**James M. Lents, Ph.D.  
Executive Officer**

## **PREFACE**

This summary of the Regional Clean Air Incentives Market (RECLAIM) program is an excerpt from the final Program and Rule Development Report for RECLAIM as adopted by the District's Governing Board on October 15, 1993. It includes a summary of the proposed RECLAIM NO<sub>x</sub> and SO<sub>x</sub> programs, and key findings of the final Socioeconomic and Environmental Assessments. The complete report is divided into the following five volumes:

- **Volume I: Development Report and Proposed Rules**  
Program description, rule development history, program equivalency discussions, and the proposed rules.
- **Volume II: Supporting Documentation**  
Supporting documentation for Volume 1.
- **Volume III: Socioeconomic and Environmental Assessments**  
Analysis of the potential socioeconomic and environmental impacts, consideration of alternatives, discussion of the models used to project costs and impacts, and air quality modeling data.
- **Volume IV: Protocol - Oxides of Sulfur**  
The proposed RECLAIM protocol for monitoring, reporting, and recordkeeping for oxides of sulfur emissions.
- **Volume V: Protocol - Oxides of Nitrogen**  
The proposed RECLAIM protocol for monitoring, reporting, and recordkeeping for oxides of nitrogen emissions.

Copies of these documents are available and may be obtained by calling the District's Public Information Center at (909) 396-3600.

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## Program Summary

### Overview

This report is designed to highlight the main components of the program and answer the most commonly asked questions about the Regional Clean Air Incentives Market (RECLAIM). This report reflects the program as adopted by the District's Governing Board on October 15, 1993, for Oxides of Nitrogen (NO<sub>x</sub>) and Oxides of Sulfur (SO<sub>x</sub>). RECLAIM was the result of joint and dedicated efforts by the District, as well as industry and environmental representatives, the California Air Resources Board (ARB), and the Environmental Protection Agency (EPA). This summary of the RECLAIM Program and Rule Development Report includes a summary of the program elements and Socioeconomic and Environmental Assessments.

### Introduction

The South Coast Air Basin (Basin) suffers the worst air pollution in the United States. Existing regulations are, in many instances, more stringent than similar regulations at the state and federal level. The business community and the public have a common commitment to clean air. By the late 1980s, the public and private sector alike were also committed to aggressively investigating the use of market incentives to lower the cost of attaining clean air.

During the last three years, the South Coast Air Quality Management District (District), along with hundreds of organizations and thousands of individuals, worked to take the concept of market incentives and develop it into an emissions trading regulatory program. The RECLAIM program represents the culmination of this work.

The RECLAIM rules were developed with the assistance of the federal EPA, the ARB, and the RECLAIM Steering and Advisory Committees. In total, the work included six months of concept development, a one-year feasibility study, and one and a half years of rule development.

RECLAIM was developed as an alternative regulatory program to meet the Basin's air quality improvement objectives. It represents a significant departure in the emission reduction strategy for attainment of air quality standards relative to control requirements for stationary sources. RECLAIM is an important component of the District's strategy to meet Reasonable Further Progress (RFP) requirements for ozone and nitrogen dioxide.



RECLAIM was designed to reduce emissions from sources in the program to the same extent that would be required through implementation of existing regulations and the Air Quality Management Plan (AQMP). The program provides the maximum flexibility to sources in achieving the required emission reductions, while stimulating innovation and technology advancement.

This Executive Summary includes a brief background of the program development, describes the various components of the program, and summarize the projected socioeconomic and environmental impacts of the program.

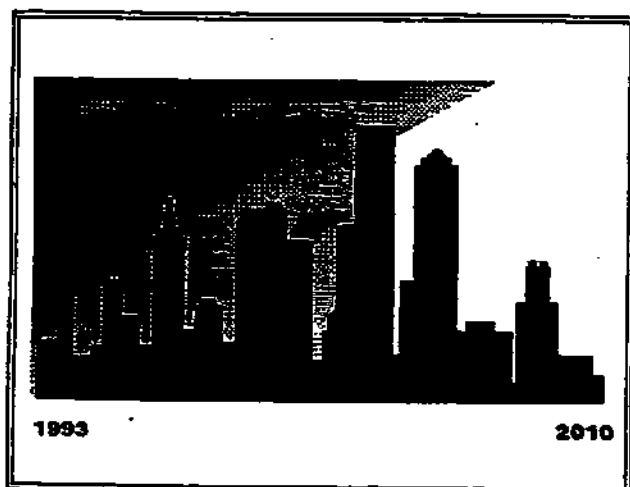
### RECLAIM Summary

- I. Program Elements
- II. The History of RECLAIM Development
- III. Program Details
- IV. The AQMP Test
- V. Summary of the Socioeconomic Assessment
- VI. Summary of the Environmental Assessment
- VII. Program Equivalency

## I. Program Elements

This section presents an overview of RECLAIM and describes the benefits of the program.

### I-1 Why was RECLAIM developed?



Although air quality in the Basin has improved greatly in recent years, continued emission reductions are needed in order to meet the state and federal clean air standards. The goal of RECLAIM is to give facilities added flexibility in meeting their emission reduction requirements and lower the cost of compliance. This flexibility allows facilities the opportunity to find additional ways to reduce emissions at significantly lower costs, and trade emission allocations in a free market setting.

This program will require the same overall emission reductions as the existing command-and-control rules and control measures contained in the AQMP. Also, requiring facilities to reduce emissions serves as a driving force to promote technology advancement.

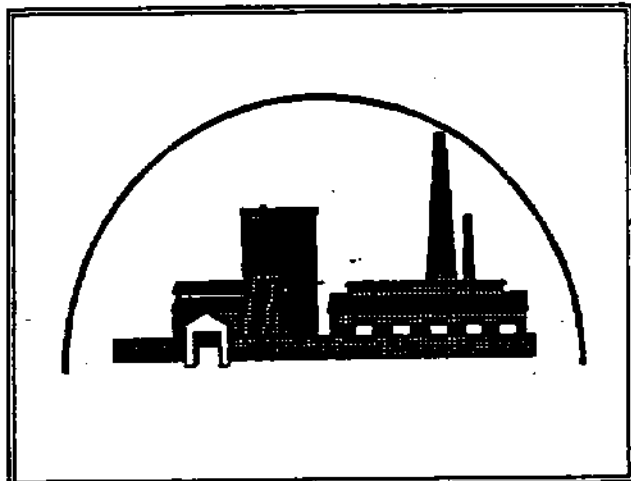
**I-2 What is the basic concept?**

All major stationary sources with NO<sub>x</sub> and SO<sub>x</sub> emissions generally greater than 4 tons per year will receive an annual emission cap and an annual rate of reduction. Each facility's target for emission reductions represents their share of the reductions required by District rules and the AQMP. In turn, the emission reduction requirements of more than thirty adopted rules and 12 future potential rules are replaced by RECLAIM.

| <b>SO<sub>x</sub> Market</b>                       |       |
|--|-------|
| Number of Facilities:                              | 41    |
| Annual Market Rate of Reduction 1994 through 2003: | 6.8 % |

| <b>NO<sub>x</sub> Market</b>                       |       |
|--|-------|
| Number of Facilities:                              | 390   |
| Annual Market Rate of Reduction 1994 through 2003: | 8.3 % |

Under the program, each facility will have a single permit that encompasses all emission sources. Each facility receives an annual emissions Allocation for sources emitting either NO<sub>x</sub> or SO<sub>x</sub>. Facilities could be in one or both markets. Facilities are required to meet specific annual mass emission reduction targets.



One very important environmental benefit is that RECLAIM will commit the facilities in each market, as a whole, to achieve the emission reduction targets of the AQMP. Facilities that today operate below their potential to emit will receive a starting Allocation commensurate with their actual emissions in the last few years. Emission reductions can be achieved using add-on controls, modernization, process improvements or by purchasing lower cost emission reduction credits produced at another facility.

### **I-3 What are the major benefits?**

The major benefit of RECLAIM is that air quality goals necessary to protect public health can be met in a more cost-effective manner. RECLAIM will meet or exceed the projected AQMP emission reductions necessary for air quality improvements, with equal or lower impacts on jobs, costs, and public health. The RECLAIM programs will reduce 80 tons of NO<sub>x</sub> emissions per day and 14 tons of SO<sub>x</sub> emissions per day by July 1, 2004.

RECLAIM will provide more flexibility for industry and will enable facilities to improve their long term planning and management of emissions. RECLAIM allows each facility to implement the most cost-effective strategy to meet its emission reduction obligations.

For the first time, RECLAIM will cap facility emissions, as opposed to the current practice of controlling emission rates. Monitoring compliance with annual emission Allocations requires improved emission monitoring, which will result in a better understanding of emissions and air quality.

### **I-4 What are the benefits to the public?**

RECLAIM is designed to achieve equivalent or better air pollution reductions necessary to protect public health, when compared with the traditional regulatory program. A market-based program provides additional incentives for industry to reduce emissions and develop better pollution control technology. The program includes emission caps which are not currently required on most facilities, and requires improved emissions monitoring and reporting. Equipment permits which, in most cases, do not have emission caps, will be replaced with facility permits with emission caps based on historical activity.

RECLAIM facilities will continue to maintain existing control equipment, and follow all housekeeping requirements. In addition, requirements for Best Available Control Technology (BACT) for new and modified sources will remain in effect, as will requirements for all existing and future toxic rules.

For the first time, the breach between the planned emission reductions associated with a rule and the actual field experience will be bridged. For the first time, the public will have a Basin-wide tracking system which will allow them to see how each market is performing. The data from hundreds of facilities will be streamlined into a simple geographic report, which will show actual emissions on a quarterly basis. The level of public accountability is unprecedented and is the quid pro quo trade for the flexibility provided by the program.

In addition, the RECLAIM rules include annual and three-year audits to ensure that program goals are being achieved and that improvements control technology are advancing. Each of these audits will be submitted by the District to the state legislature.

### **I-5 What are the benefits for the business community?**

RECLAIM has several advantages for industry compared to the existing regulatory structure. Each facility will have an annual Allocation that reflects the reductions required under the AQMP. However, the specific control requirements and timing of those reductions is now under the control of each facility. Trading or shifting of NO<sub>x</sub> and SO<sub>x</sub> emissions from various equipment under a facility mass cap is now completely at the discretion of the facility. The Allocations are included in the Facility Permit, which will provide long-term planning and management ability.

RECLAIM also allows each facility to choose the most cost-effective strategy to meet annual emission targets. Facilities that will have emissions below their annual Allocation can sell the difference to other facilities.

RECLAIM offers industry the ability to competitively develop and control their own air pollution reduction strategy. The program encompasses approximately 65 percent of the NO<sub>x</sub> emissions and approximately 85 percent of the SO<sub>x</sub> emissions from permitted stationary sources in the Basin. It establishes each market's overall reduction requirements to achieve AQMP goals. It removes the uncertainty and the long, arduous and often painful debate associated with sequential command-and-control rules. In addition, by incorporating each facility's current level of pollution control into individual rates of reduction, RECLAIM establishes a generally level field for economic competition and growth.

## **II. The History of RECLAIM Development**

This section provides a history of the RECLAIM program and answers questions that describe the process by which RECLAIM was developed.

### **II-1 What design criteria were used in developing RECLAIM?**

Throughout the development of RECLAIM, the following five criteria were used to evaluate program options:

- **Enforcement of emission reductions must provide a confidence level equal to or greater than the existing air pollution control program;**
- **Emission Reductions (Air Quality) Improvements must be equal to or greater than the 1991 Air Quality Management Plan (AQMP) and future control plan requirements;**
- **Implementation Costs must be less than the cost projected in the 1991 AQMP;**

- **Job Impacts must be less than the cost projected in the 1991 AQMP; and,**
- **Adverse Public Health Impacts should not result from implementation of the program.**

## **II-2 When did development of RECLAIM begin?**

Development of RECLAIM began in 1990 and consisted of four phases. The first phase concluded with a public workshop held in October 1990 to obtain input relative to the development of the concept paper. Phase II began with a second public workshop to review the Phase I work and receive further input. A draft concept for a trading program was prepared by the District subsequently, and at its February 1991 meeting, the Governing Board authorized Phase III, which was a full-scale Feasibility Study.

The Feasibility Study evaluated numerous design alternatives for the program and resulted in five Working Papers and a Summary Recommendations Document that recommended that the District proceed with rule development. After a lengthy Public Hearing that consisted of six hours of public testimony, the District's Governing Board directed staff to proceed with Phase IV, the development of a series of rules and documents to implement RECLAIM for NO<sub>x</sub>, SO<sub>x</sub>, and ROC air pollutants.

In February 1993, the District decided to separate the ROC market from the NO<sub>x</sub> and SO<sub>x</sub> markets. The Allocation, as well as enforcement and penalty issues for ROC, are significantly different from those associated with combustion source emissions. Additional time and work was needed for the ROC market; therefore, it was decided to focus on the development of the NO<sub>x</sub> and SO<sub>x</sub> programs expeditiously, and delay the development of the ROC market to a 1994-1995 timeframe. In the meantime, consistent with the direction of the ARB, the District has reinitiated development of command-and-control rules for ROC sources since July 1993.

On September 9 and 10, 1993, the District Governing Board began the Public Hearing on the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs. Testimony was received from a wide range of industrial and environmental groups, as well as other regulatory agencies. The Public Hearing continued on October 15, 1993, where the Board heard further testimony. On that day after conclusion of the Public Hearing, the Governing Board adopted RECLAIM with implementation commencing January 1, 1994.

## **II-3 How was RECLAIM developed?**

The development of RECLAIM included the most extensive public participation process ever initiated by the District for the development of any environmental regulation.

As part of the Feasibility Study, the District formed a broad-based Advisory Committee to assist in designing RECLAIM. The objectives of the Advisory Committee were to identify and assist in the analysis of key design issues, to evaluate issues regarding state or federal regulatory constraints, to evaluate proposed solutions for a program that will achieve the goal of compliance with federal and state clean air standards, and to identify areas of concern. A Steering Committee was also formed from a small subset of the Advisory Committee to assist the District on key issues concerning the proposed design. These two Committees played a crucial role in the development of the program.

The Steering and Advisory Committees were expanded when rule development began to include additional representatives and continued to meet throughout the rule development process. Also, at the beginning of rule development, the following working groups were formed to provide more focused input on the development of various elements of the program:

- Administrative Structure (initially referred to as the Baseline Working Group)
- NO<sub>x</sub> and SO<sub>x</sub> Protocol
- ROC Protocol
- Mobile Source
- Trading Market
- Enforcement and Penalties
- Energy Impacts
- Socioeconomic and Environmental Impacts
- Manufacturer's Bubble

The District also worked with the ARB and the EPA on a bimonthly basis throughout the process to evaluate program design and implementation issues relative to state and federal requirements.

Prior to the Public Hearing for rule adoption, there were three special reports to the Governing Board, monthly updates to the Board Planning Committee, and numerous public workshops.

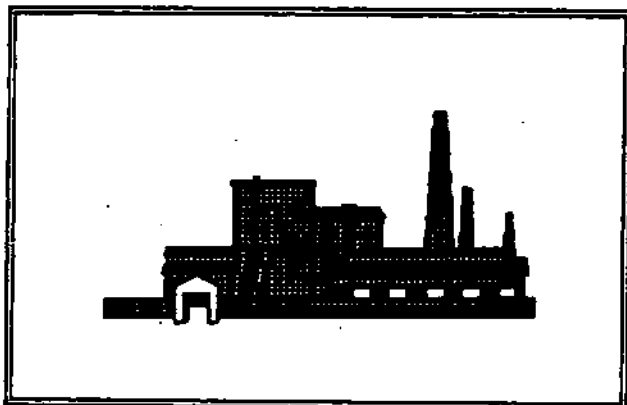
#### **II-4 Who was involved in the development of RECLAIM?**

All RECLAIM meetings and workshops were open to the public. The membership of the Steering and Advisory Committees included representatives from public agencies, business, labor, environmental, ethnic, public health, research, and financial organizations. The Working Groups included members from affected industries, consultants and attorneys representing affected facilities, environmental groups, and public agencies, including the ARB, and the U.S. EPA. RECLAIM represented one of the most open regulatory programs developed at a local level, with intense public participation.

### III. Program Details

The following questions describe the RECLAIM program and outline the program structure and requirements.

#### III-1 Who will this program apply to?



RECLAIM will apply to stationary sources that hold permits for equipment or processes that generally emit more than four tons per year of  $\text{NO}_x$  or  $\text{SO}_x$ . Sources such as equipment rental facilities, essential public services (including police, fire, landfills, waste water treatment facilities, hospitals, prisons, and schools), restaurants, and dry cleaners are excluded from RECLAIM.

Facilities located in areas outside the Basin, but still under the District's jurisdiction, are excluded from RECLAIM, such as facilities in the South East Desert Air Basin (SEDAB). RECLAIM will allow facilities in certain industries to voluntarily enter the program in order to seek the most cost-effective means of reducing emissions. Once facilities elect into the program, however, they will not be able to return to the traditional command-and-control regulations.

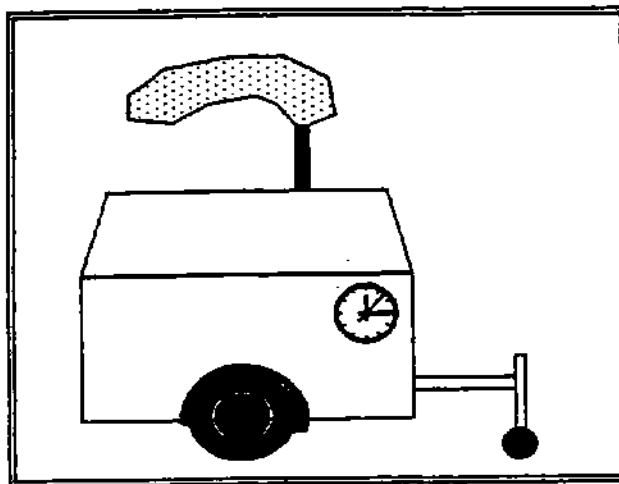
#### III-2 How were facility Allocations determined and what types of sources were included in the Allocation?

Each facility received three sets of Allocations as follows: a starting Allocation for 1994; a mid-point Allocation for 2000; and, an ending Allocation for 2003. Allocations are in annual tons of  $\text{NO}_x$  and  $\text{SO}_x$ , and figures for each intermediate year are calculated by determining the straight-line reduction between the 1994, 2000, and 2003 Allocations.

Each facility's Allocation was calculated by determining the historic use of each piece of  $\text{NO}_x$  and  $\text{SO}_x$  equipment at the facility, and then multiplying the throughput or usage by appropriate emission factor based on adopted rules. In order to determine "historic use," fuel use by process unit was evaluated for the peak year of use for each facility. In order to establish the required emission factor, the reductions required by adopted rules, as of December 31, 1993, was calculated for each type of equipment, as applicable. Emission Reduction Credits (ERCs) were added to the starting Allocation. In order to address equity concerns for facilities that have been subject to New Source Review (NSR), facilities were

able to increase their starting Allocation by the amount of external offsets provided by the facility to comply with NSR requirements. For facilities with equipment permitted between January 1, 1993, and the start of the program, Allocations were increased to include external offsets provided to mitigate the emission increases from the newly permitted equipment.

The  $\text{NO}_x$  and  $\text{SO}_x$  Allocations will include emissions at the facility from equipment such as boilers, furnaces and dryers. The Allocations will also include emissions from  $\text{NO}_x$  and  $\text{SO}_x$  equipment exempt from a permit to operate pursuant to Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II.



There are certain types of emissions that are not included in the Allocations, such as emissions from equipment or processes with various location permits, such as small portable internal combustion engines. Also,  $\text{NO}_x$  and  $\text{SO}_x$  emissions from on-site/off-road mobile equipment are not included in RECLAIM Allocations. The annual Allocations also do not include  $\text{SO}_x$  emissions from equipment that burns natural gas exclusively.

The methodology for establishing facility Allocations addresses equivalency, fairness, and equity. Under equivalency, the first fundamental test for RECLAIM was that the emission reductions are equivalent to adopted rules and to AQMP control measures. Relative to fairness, the goal was to establish Allocations that accommodate necessary historic operating levels, so that industries are not locked into recessionary production levels unfairly. With regards to equity, the Allocations recognize previous emission control and reduction efforts and treat all facilities in the same manner. Each facility's starting Allocation was developed in combination with its mid-point and ending Allocation to determine the individual required emission reduction rate.

Each facility may also have non-tradeable credits (NTCs) available for the first three years of the program, if their reported 1987, 1988 or 1993 emissions are greater than their starting Allocation, which was based on a peak year of use between 1989 and 1992. The amount of non-tradeable credits available to each facility is the difference between the throughput for each type of equipment in the highest year of 1987, 1988 or 1993, multiplied by emission factors representing implementation of existing rules with compliance dates by December 31, 1993, and the starting Allocation. That difference will be available to the facility for the



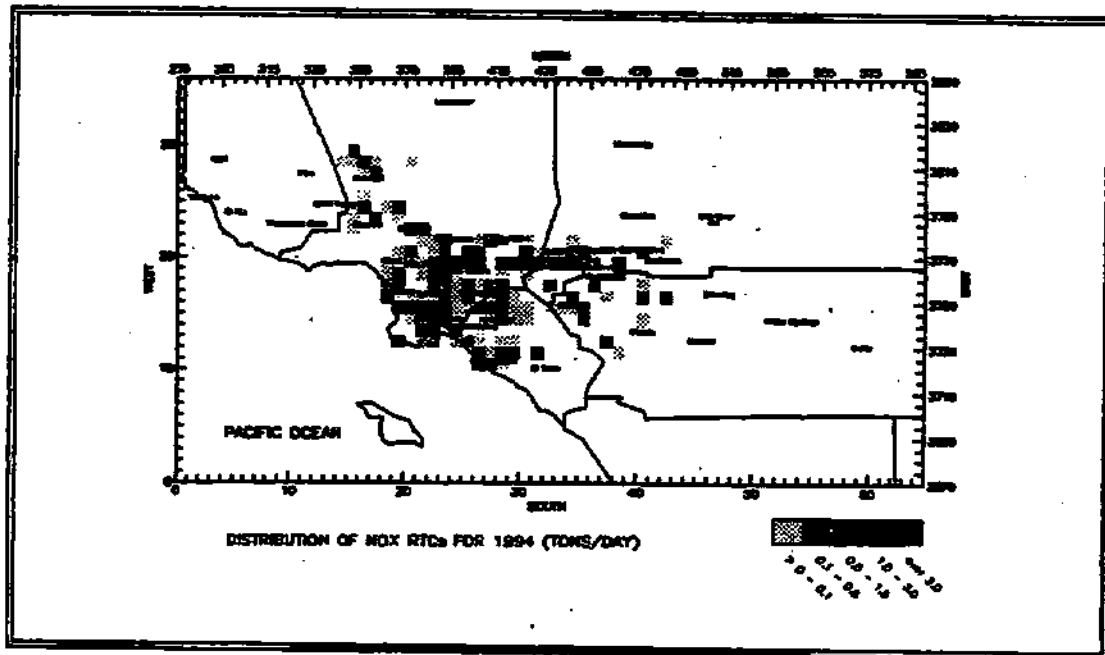
## Program Summary

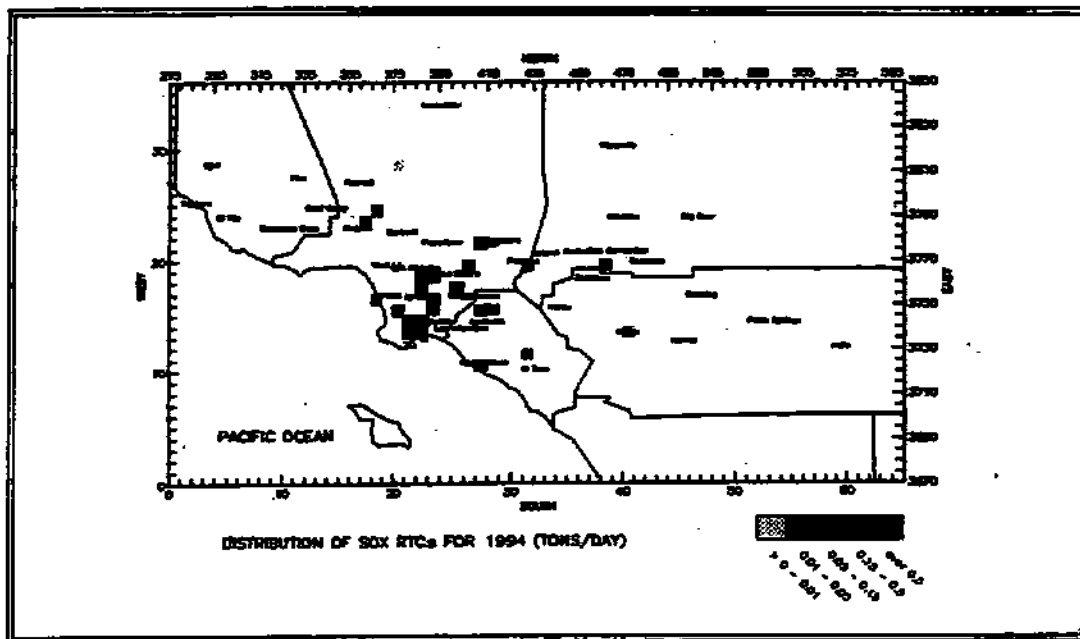
first year of the program and the amount of credit available will be devalued by one-third each subsequent year. Facilities may access the non-tradeable credits only for increased throughput or hours of operation, and not for trading purposes.

The 2000 and 2003 Allocations for each market will represent full implementation of Tiers I and II, respectively, of the District's 1991 AQMP. The peak activity is multiplied by an emission factor that represents implementation of 100 percent of AQMP Tier I control measures in 2000, and both Tier I and II control measures in 2003. This is done on an equipment or process category basis. Each facility's Allocation is then reduced by an equal percentage across the board to match the 2000 and 2003 air quality targets for the RECLAIM universe in the AQMP. These programmatic reductions are often referred to as the mid-point and end-point shave.

ERCs and external offsets added to a facility's Allocation will not be subject to reductions from 1994 to 2000, but will, however, be reduced at the same rate from 2000 to 2003 as the RECLAIM inventory. This refinement was made for equity purposes, and treats ERCs and external offsets in the same manner for BACT facilities.

The distribution of RTCs in 1994 in the  $\text{NO}_x$  and  $\text{SO}_x$  programs are represented below.





### III-3 Are any sources treated differently under RECLAIM?

Throughout the development of RECLAIM, the District evaluated several design options that would have treated some industries differently than others. For example, early draft rules included a two-step reduction for electric utilities only, with a minimum end-point Allocation based on 75 percent of the annual cap in Rule 1135 for the year 2000.

After evaluating advantages and disadvantages of different program options, the District adopted a program that treats all sources consistently for equity and fairness. This applies to the Allocation methodology, monitoring and reporting requirements, and all program elements.

### III-4 What happens to existing rules and future control measures applicable to RECLAIM facilities?

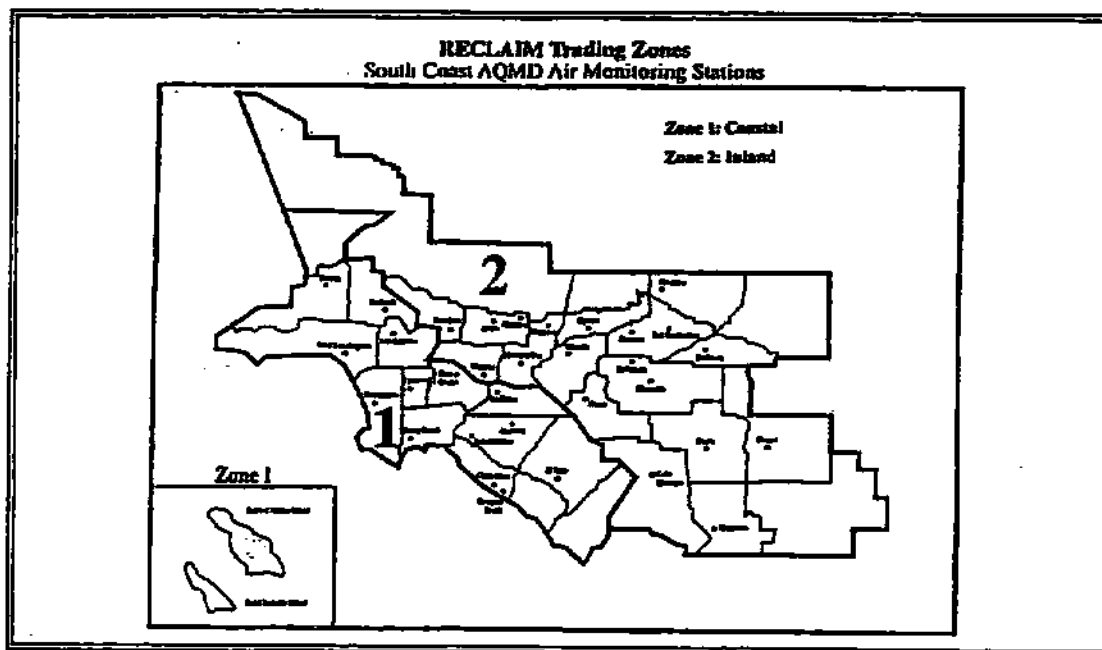
Applicable existing command-and-control rules will remain in effect for pollutants and equipment not encompassed by RECLAIM. RECLAIM sources will continue to be subject to housekeeping requirements such as inspection, maintenance, and current equipment operations and controls. Facilities are required to maintain and operate existing emission control equipment. For RECLAIM pollutants at RECLAIM facilities, annual emission reduction targets replace reduction requirements contained in AQMP control measures and in current source-specific rules with future effective compliance dates. See Chapter 2 of Volume 1 for a complete listing of such requirements.

### III-5 How will new sources and modifications to existing sources be treated under RECLAIM?

Under RECLAIM, all new or relocated facilities are subject to BACT requirements, as well as air quality modeling requirements. In addition, they will be required to provide RTCs at a one to one ratio to offset their emissions, for the first year of operation and every year thereafter at the beginning of the compliance period. In order to continue operating, they must have sufficient RTCs to mitigate emissions on an ongoing basis. New facilities will not be subject to an annual reduction rate because they must fully mitigate all emissions from the existing pool of RTCs available under RECLAIM.

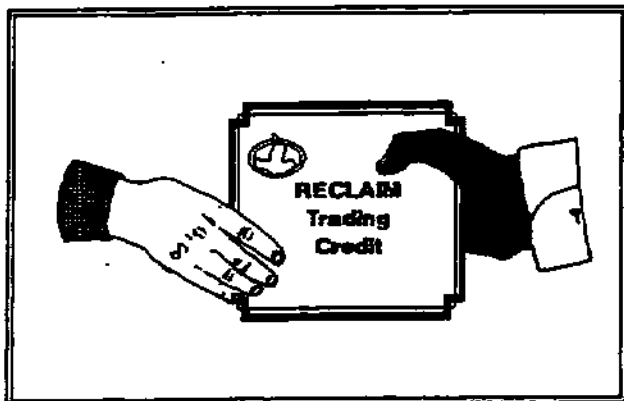
Modifications to existing RECLAIM facilities which result in an emission increase above the original starting Allocation, are subject to BACT and modeling requirements. In addition, they are required to demonstrate that the emission increase can be mitigated through internal netting or that they have acquired sufficient RTCs for one year.

All RTC trades conducted to mitigate emission increases over the facility's starting Allocation and from new or relocated facilities will be subject to Sensitive Zone provisions of the California Health and Safety Code (Section 40410.5). Two zones have been designated for the Basin: the Coastal Zone and the Inland Zone, which are referred to as Zone 1 and Zone 2, respectively. Zone restrictions will apply only to trades that involve a new or relocated facility, or a facility exceeding its starting Allocation, including the non-tradeable portion. A facility in the Coastal Zone may only obtain and use RTCs that originated in the Coastal Zone. However, a facility in the Inland Zone may obtain and use RTCs from either zone.



New, relocated or modified RECLAIM facilities are also subject to Rule 1401 - New Source Review for Toxic Air Contaminants.

### III-6 How will emissions trading work and when will trading be allowed?



Facilities can buy and sell RTCs in terms of pounds per year. Although the District will not regulate the market or control the prices, it will track RTCs and prices in an official RTC registry. The District will maintain a bulletin board so that facilities can identify their availability and applicability to individual facilities.

All companies with an Allocation can buy, sell, trade, or otherwise transfer all or portions of their Allocation in any given compliance year provided they follow the necessary protocols and reporting requirements. Facilities can purchase RTCs to meet their emission reduction targets or increase their annual Allocation to meet operational needs.

Facilities wishing to sell RTCs may do so without pre-approval from the District. Facilities that purchase the RTCs can either hold them in the form of a Certificate, apply them to meet emission reduction requirements or apply for an increase in their annual Allocation. The seller will register an automatic decrease in the RTCs contained in its Facility Permit and is responsible for ensuring that emissions do not exceed the new Allocation. The buyer's Facility Permit will be automatically increased when the RTCs are noted for use to meet emission reduction requirements. When the buyer wishes to use the RTCs for a new source at the facility or for increases above their annual Allocation, an amendment to the Facility Permit must be obtained. Any facility that exceeds its annual Allocation without securing the necessary RTCs to mitigate the emissions will be in violation of their annual Allocation.

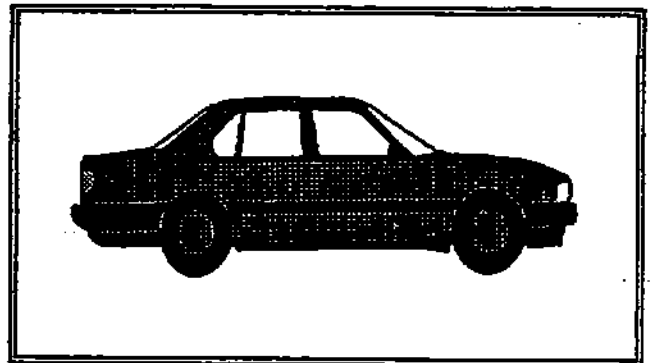
Anyone can participate in the RECLAIM trading markets, including RECLAIM facilities, brokers, non-RECLAIM facilities, and individuals interested in trading RTCs. Facilities will be able to freely trade RTCs at any time, so long as the transactions have been registered with the District.

**III-7 Will credits from RECLAIM and non-RECLAIM facility shutdowns be able to be used for emissions trading?**

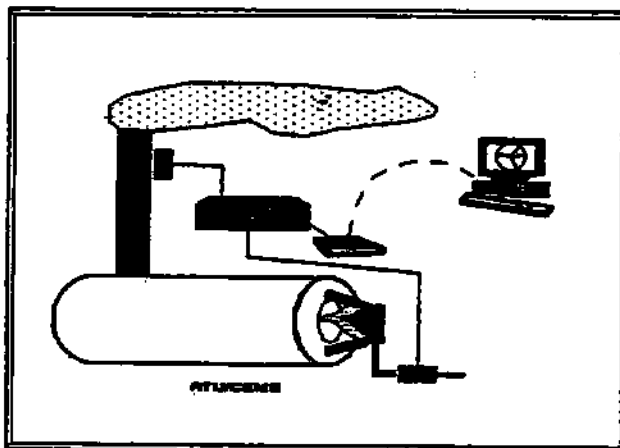
RECLAIM facilities that completely or permanently cease operations can sell their remaining RTC Allocation. Socioeconomic modeling shows no greater job loss is expected from the shutdown of RECLAIM facilities than would have been expected from full implementation of the AQMP for the same sources. Non-RECLAIM facilities may convert ERCs to RTCs. If, however, the ERCs resulted from a shutdown, it must have occurred prior to October 15, 1993. Additionally, an application for the conversion must be submitted prior to July 1, 1994.

**III-8 Can mobile and area source emission reductions be used to generate RTCs?**

RECLAIM facilities can use emission reductions from mobile sources regulated in the Basin that have been created pursuant to the requirements of any Regulation XVI rule. The first rule adopted for mobile source emission reduction credits is Rule 1610 - Old Vehicle Scrapping. Facilities, as well as individuals, are allowed to generate such credits as RTCs.



**III-9 What are the compliance and emission reporting requirements?**



To balance the flexibility that the program provides with enforceability, improved emissions monitoring, measuring, and reporting requirements are necessary. For each RECLAIM market there is a "Protocol for Monitoring, Reporting, and Recordkeeping" that specifies the requirements.

During the course of the compliance year, facilities are required to periodically report their emissions to the District. At the close of each of the first three quarters, facilities have a one-month reconciliation period to certify their quarterly emissions. At the end of the compliance year, facilities are required to report their emissions and will be given a two-

month reconciliation period to secure or sell any RTCs through the trading market necessary to balance their emissions books for the last quarter of the year.

Under RECLAIM, facilities are divided into two compliance cycles. The first compliance cycle is from January 1 to December 31 of each year. Cycle two will be from July 1 to June 30 of the following year. The program is based on an annual system, and transactions can be conducted with facilities in either cycle. Staggered compliance schedules will help ensure that RTCs will be available, thereby providing a more liquid market with better price stability.

**III-10 What actions will be taken if a facility exceeds its annual Allocation?**

Facilities that exceed their annual emission Allocation will be subject to enforcement actions. Facilities that fail to achieve their annual emission reductions will be required to accomplish the reduction the following year and may be subject to monetary penalties. Also, Facility Permits may be revised to include conditions to ensure future compliance. The Executive Officer may also petition the Hearing Board to revoke the Facility Permit.

**III-11 How will toxics be addressed?**

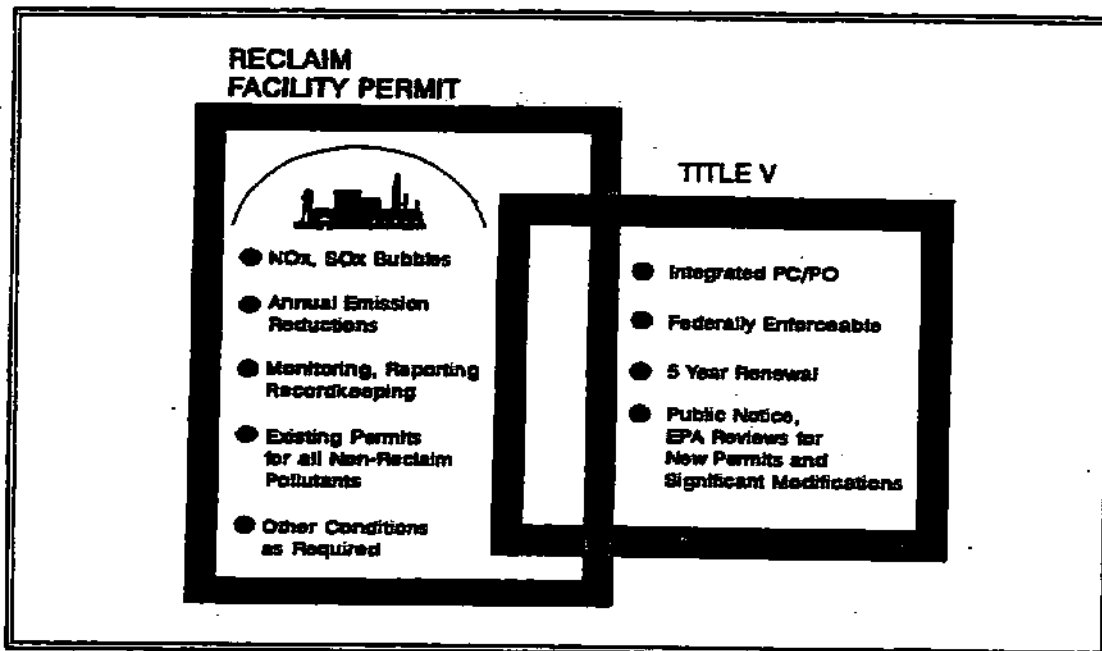
There are no significant toxic risks anticipated from the NO<sub>x</sub> and SO<sub>x</sub> programs. Nevertheless, if facilities increase their Allocation, the facilities will be subject to Rule 1401 - New Source Review of Toxic Air Contaminants. In addition, existing facilities may be subject to Rule 1402 - Control of Toxic Air Contaminants from Existing Sources, scheduled for adoption in February 1994, if the specified limits for cancer risk and noncancer health hazards are exceeded.

**III-12 How will RECLAIM work with the federal Title V permitting program?**

All NO<sub>x</sub> RECLAIM facilities with initial Allocations, plus non-tradeable credits, equal to or greater than 10 tons per year and SO<sub>x</sub> RECLAIM facilities with initial Allocations, plus non-tradeable credits, equal to or greater than 100 tons per year are Title V facilities. The RECLAIM Facility Permit serves as an integrated Permit to Construct and Permit to Operate, in addition to being a Title V permit.

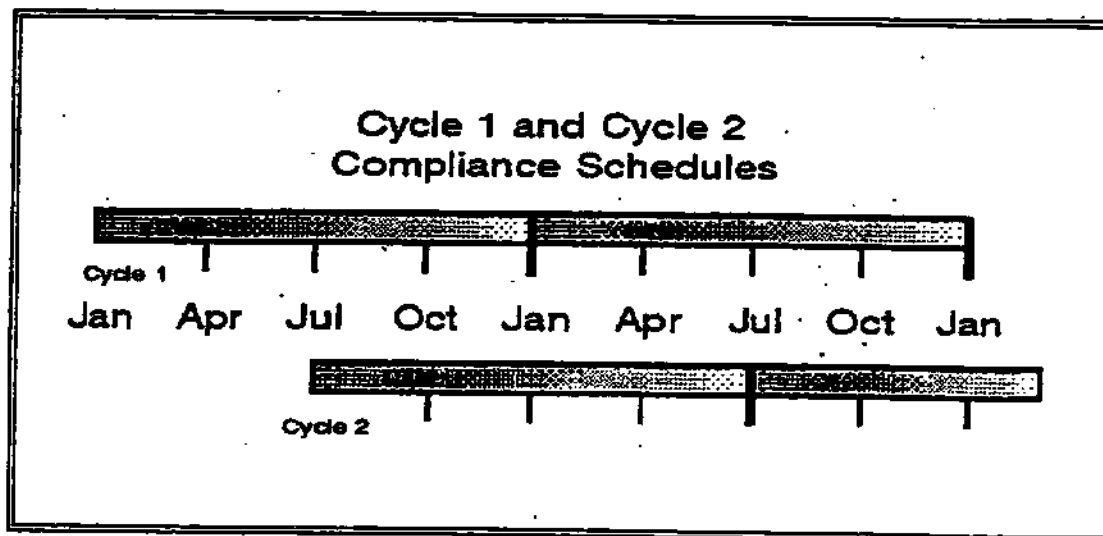
| RECLAIM and Title V |                 |                 |
|---------------------|-----------------|-----------------|
| RECLAIM Facilities  | NO <sub>x</sub> | SO <sub>x</sub> |
| Title V             | 210             | 16              |
| Non-Title V         | 180             | 25              |
| Total               | 390             | 41              |

Certain non-RECLAIM sources are also subject to the federal requirements for Title V permits. The rules in Regulation XXX (adopted in October 1993) define the District's administrative requirements for the Title V program.



**III-13 When does RECLAIM begin?**

The RECLAIM program begins January 1, 1994. The Cycle One compliance year will be January 1 through December 31 of each year. Cycle Two facilities will begin their participation in RECLAIM on July 1, 1994, with a compliance year of July 1 through June 30 of the following year. Although the compliance periods are staggered, facilities will be able to purchase RTCs from either cycle.



## IV. The AQMP Test

This section demonstrates that RECLAIM is equivalent to the existing command-and-control program, and future requirements contained in the 1991 AQMP.

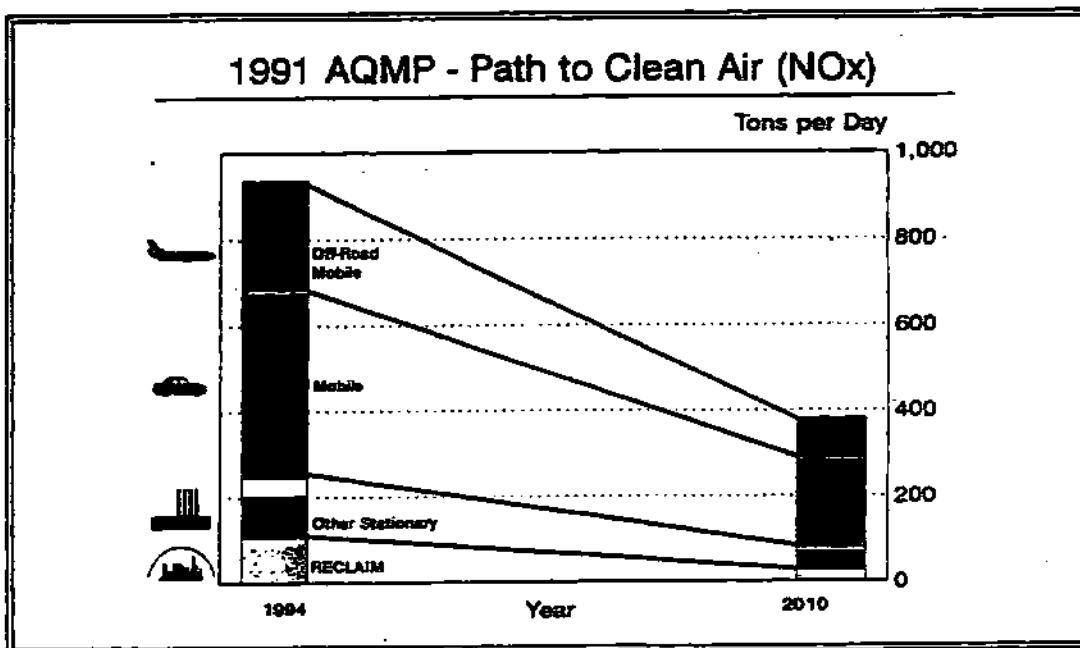
### IV-1 Is RECLAIM equivalent to the AQMP?

The 1991 AQMP presents four tests for the RECLAIM program:

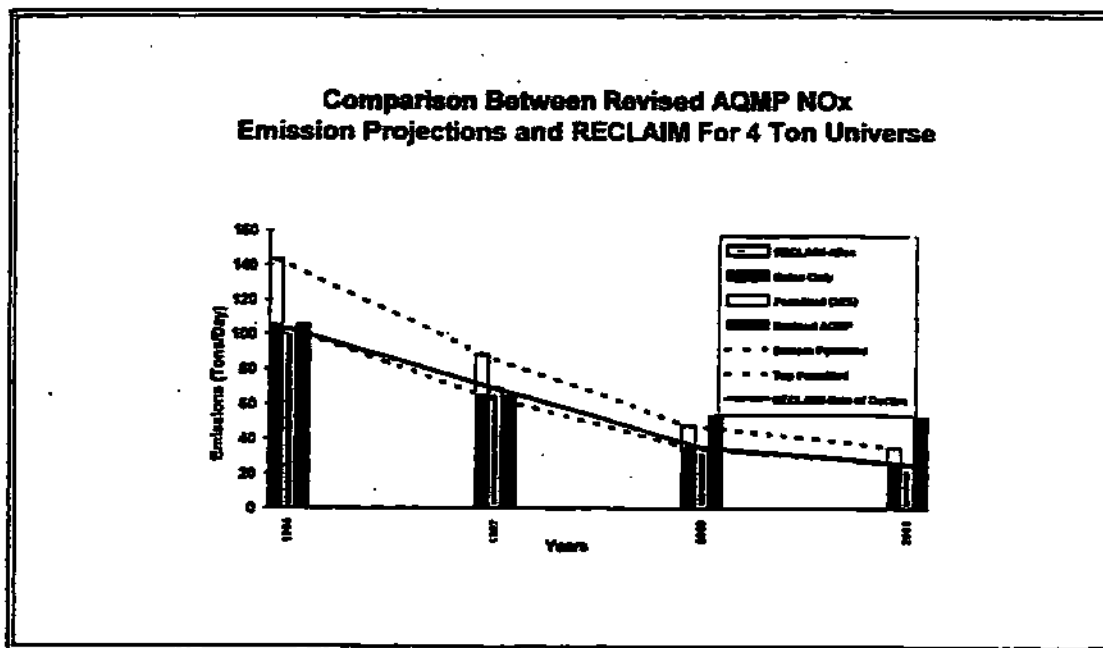
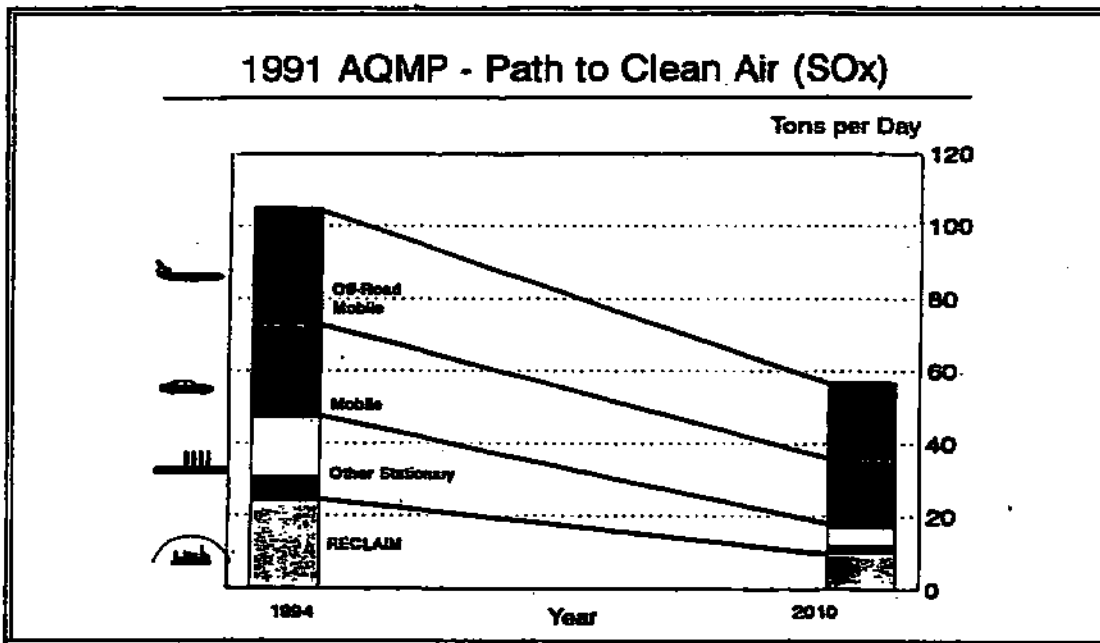
- emissions reduction targets for 1994, 1997, 2000, and 2010;
- per capita exposure reduction requirement;
- cost; and
- job impacts.

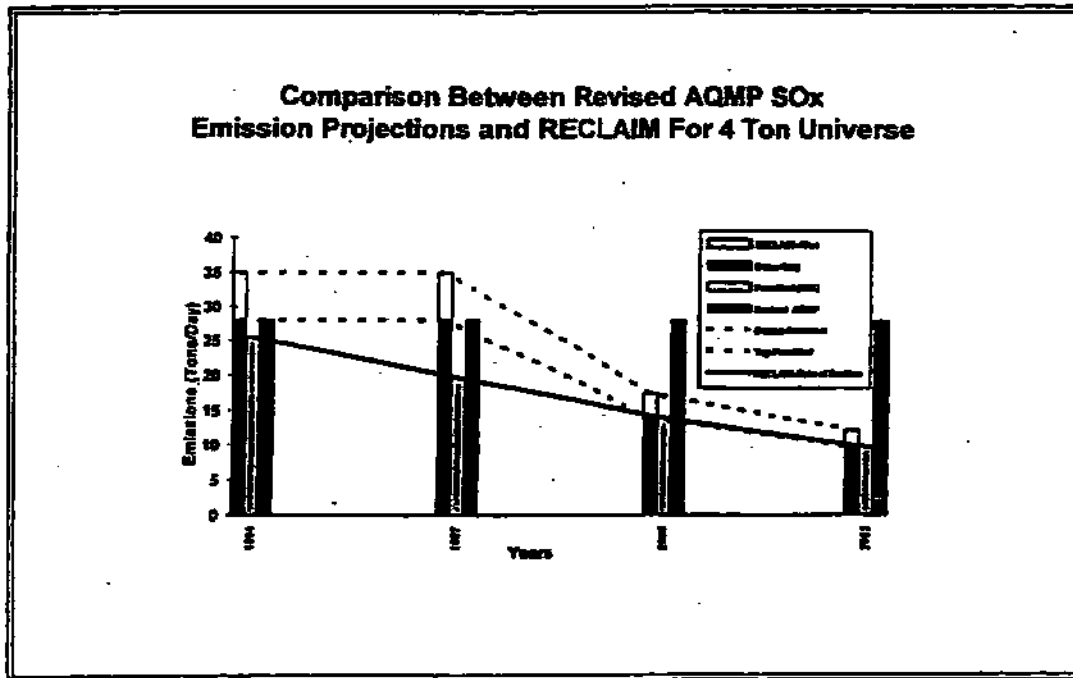
RECLAIM was designed to pass each of the above tests. Initial Allocations are consistent with, and even lower than the AQMP target for 1994 for both NO<sub>x</sub> and SO<sub>x</sub>. The AQMP projects implementation of all Tier I and Tier II NO<sub>x</sub> and SO<sub>x</sub> control requirements by the end of 2003. The 2003 compliance year is the last year in the program for declining Allocations, unless the program audits or AQMP process provide information allowing the Governing Board to determine that additional reductions are necessary to meet air quality standards.

Permitted stationary sources represent 17 percent of the total NO<sub>x</sub> emissions and 31 percent of the total SO<sub>x</sub> emissions in the Basin. The following four charts illustrate the role of the RECLAIM source reductions in the overall AQMP inventory.







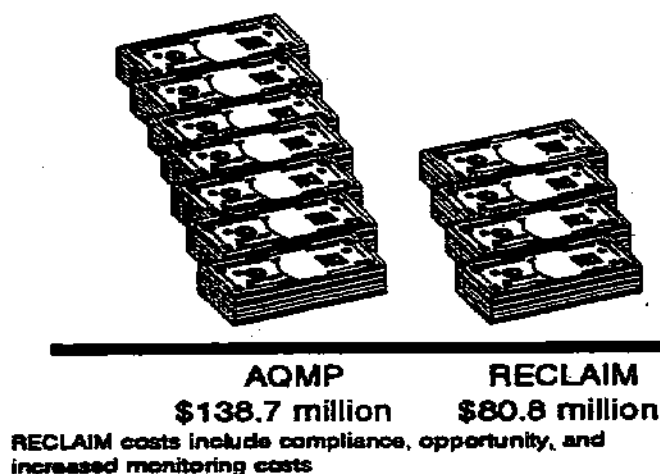


In the AQMP, certain emission reduction targets must be met in 1997 and 2000, pursuant to the California Clean Air Act. Reductions in the years 1997 and 2000 will be commensurate with the progress that the District estimates would have actually been achieved through adoption and implementation of command-and-control rules. (the numerical difference in the intermediate years is so slight that it cannot be distinguished by the Urban Airshed Model).

Implementation of the RECLAIM NO<sub>x</sub> and SO<sub>x</sub> rules is projected to exceed the CCAA requirements to reduce human exposure to ozone. Regarding per capita exposure reductions, modeling shows that RECLAIM health effects are nearly identical to the AQMP command-and-control approach in 1994, and have greater health impact reductions in 1997 and 2000.

Compared to the AQMP command-and-control approach, RECLAIM offers a more efficient and less expensive way to achieve emission reductions. RECLAIM will encourage the advancement in control technology at an accelerated rate because excess emission reductions can be traded. The cost of implementing the NO<sub>x</sub> and SO<sub>x</sub> programs for RECLAIM is estimated to be \$80.8 million annually, on average, over the analysis period from 1994 to 1999. The corresponding cost for the AQMP command and control system is about \$138.7 million annually, on average. Therefore, the cost of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs is estimated to be approximately 42 percent less than the projected cost of emission reductions under the traditional AQMP approach.

### Average Annual Costs Command and Control Vs. RECLAIM



Lower costs translate into reduced job impacts. The NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs are predicted to result in 866 jobs foregone, while the AQMP is predicted to result in 2,013 jobs foregone, on average, per year from 1994 to 1999. Therefore, compared to baseline job growth, the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs are projected to have 1,147 fewer jobs foregone than the command-and-control system.

Compared to the AQMP, the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are projected to result in increased employment opportunities. Using ethnic employment data from the 1990 Census, the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are projected to have increased job opportunities for all ethnic groups in both the manufacturing and non-manufacturing sectors, as compared to the command-and-control system.

#### IV-2 How does RECLAIM comply with the federal and state Clean Air Acts?

RECLAIM is consistent with the legal requirements of the federal and state Clean Air Acts. In addition to being designed to be equivalent to the AQMP, RECLAIM was also designed:

- contribute to the 5 percent per year emission reduction targets in the California Clean Air Act (CCAA), and the 3 percent per year targets in the federal Clean Air Act (CAA);
- meet the "no net increase in emissions" requirement of state law;
- allow for the attainment of clean air as expeditiously as possible;
- satisfy federal New Source Review (NSR) requirements; and,

- integrate Title V requirements into the RECLAIM Facility Permits.

Many of the requirements of the federal and state Clean Air Acts (CAAs) will be met in aggregate for all RECLAIM sources. For example, the District's NSR program will use the aggregate approach and will be an integral part of demonstrating equivalency with the requirements of both the federal and state CAAs. The federal EPA indicated at the RECLAIM public hearing that the agency concurs with the District's finding that RECLAIM, as adopted, meets the requirements of the federal CAA.

Other provisions of RECLAIM that are structured to comply with state and federal requirements include the condition that each new or modified RECLAIM facility will be subject to BACT requirements as appropriate. Also, the District will conduct modeling using air monitoring data to ensure that facilities operating under RECLAIM do not hinder attainment of the National Ambient Air Quality Standards (NAAQS). In order to comply with federal requirements, a tracking system will be used to gather information on and track all NSR events.

RECLAIM will also meet or exceed the reduction requirements for federal Reasonably Available Control Technology (RACT) and state Best Available Retrofit Control Technology (BARCT). RECLAIM is an important component of the District's strategy to meet Reasonable Further Progress (RFP) requirements for ozone and nitrogen dioxide.

Allocations for the program have been designed to comply with both federal and state emission reduction requirements. The overall program annual rates of reduction are 8.3 percent for NO<sub>x</sub> and 6.8 percent for the SO<sub>x</sub> market, which is equivalent to the emission reductions required through implementation of the AQMP for the RECLAIM sources. This will allow attainment of the ambient air quality standards in the timeframe proposed in the AQMP.

#### IV-3 Does RECLAIM pass the test of AB 1054 for market-based programs?

Assembly Bill 1054 (Sher) - Air Pollution: Market-Based Incentives, was signed into law by the Governor in September 1992 and amended in July 1993. The law requires districts to meet prescribed criteria relative to the implementation of any market-based program designed to improve air quality. The program must demonstrate equivalent emission reductions at equivalent or lower costs than with the current command-and-control approach. The program must provide adequate enforcement and monitoring to ensure that equivalent emission reductions have been made. In addition, the program must not result in a greater loss of jobs, delay compliance with the California Clean Air Act and attainment of ambient air quality standards and not result in disproportionate impacts between stationary sources in the program and other permitted stationary sources subject to command-and-control regulations.

RECLAIM is designed to pass the AB 1054 test. The requirements of this law have been incorporated into the program design and will be tracked by the program's annual and three-year audit requirements which are included in Rule 2015. The audits will evaluate the performance of the program using the following criteria: emission reductions; per capita exposure to air pollution; facility shutdowns; job impacts; the average annual price and availability of RTCs; toxic risk reductions; NSR permitting; compliance issues; and, emission trends/seasonal fluctuations. In addition, the initial distribution of RTCs will be mapped and their use will be monitored and mapped on a quarterly basis. The results of each audit will be presented to the Governing Board, ARB, EPA, and the state legislature.

In response to comments from EPA and ARB, the District will conduct three-year audits to facilitate demonstration of compliance with the CCAA.

Socioeconomic modeling analysis conducted for RECLAIM as part of the Draft Environmental Assessment indicates that no significant negative impacts are anticipated from RECLAIM as compared to the AQMP for the same sources. The modeling also indicates that lower compliance costs and job impacts will result from program implementation as compared to the continued implementation of present and potential command-and-control rules. The ARB testified at the Public Hearing that RECLAIM meets all the requirements of AB 1054.

#### **IV-4 What are the program backstops?**

Rule 2015 includes program-specific backstop provisions in the event that certain problems occur. Amendments to the program may be proposed to the District Governing Board based on the findings of the annual or three-year audits to address any specific program problems. Recommendations may include restricting trading, pre-approval of trades, enhanced monitoring, increased rates of reduction, implementation of technology-specific emission reductions, and increased penalties.

### **V. Summary of the Socioeconomic Assessment**

The following is a summary of the Socioeconomic Assessment conducted on the proposed RECLAIM program prior to its adoption on October 15, 1993. For a complete discussion of socioeconomic impacts, please see Volume III of the RECLAIM Development Report.

California Health and Safety Code Section 39620 (c)(1) and (c)(4) requires that market-based permitting programs "result in equivalent emission reductions while expending fewer resources and while maintaining or enhancing the state's economy" when compared with the command-and-control system. Specifically, those programs should result in fewer costs and "will not result in a greater loss of jobs or more significant shifts from higher to lower skilled jobs, on an overall district-wide basis." Health and Safety Code Section 40728.5 (b)(1),

(b)(2), and (b)(3) require that the District perform an assessment of socioeconomic impacts of proposed and/or amended rules. See also Health and Safety Code Section 40440.8. The assessment should address affected industries, the range of probable costs to these industries, and the impact on employment.

The RECLAIM emissions trading program was developed as a market incentive system to achieve further emission reductions from stationary sources at lower costs than the command-and-control system. The program establishes facility mass emission limits and allows sources the flexibility to achieve prescribed emission reduction targets through various methods, including process changes, installation of control equipment, and emissions trading.

The purpose of the socioeconomic impact assessment was to evaluate whether NO<sub>x</sub> and SO<sub>x</sub> RECLAIM will achieve air pollution cleanup at a lower cost and with less adverse employment impacts than the command-and-control system. This evaluation was designed to provide information relative to RECLAIM's socioeconomic impacts to facilitate the decision-making process.

Six RECLAIM program alternatives to the 1991 AQMP command-and-control system were analyzed. These alternatives were crafted in a manner that would highlight key policy issues and represent various viewpoints. The analysis, therefore, provides useful information in determining the most environmentally and economically efficient regulatory approach. The RECLAIM alternative provides the best balance of emission reductions, the size of universe, and economic impacts. It results in less impacts on jobs and the economy of the Basin.

#### V-1 How was the analysis for the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules conducted?

The NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules will replace a number of command-and-control rules and control measures in the 1991 Air Quality Management Plan (AQMP). The socioeconomic impact assessment compares RECLAIM against corresponding rules and the AQMP Tier I measures replaced by RECLAIM.

An Emissions Trading Model (ETM) was developed and used to determine future emissions trading patterns and prices of RECLAIM trading credits (RTCs or credits). The ETM was linked to the Regional Economic Models, Inc. (REMI) model to examine the secondary socioeconomic impacts of RECLAIM that are then compared with those of the command-and-control system.

**V-2 How does the cost of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules compare with that of the command-and-control system?**

Compared with the command-and-control system, RECLAIM offers a more efficient and more cost-effective way to achieve emission reductions. Moreover, RECLAIM will encourage advancement in control technology at an accelerated rate because excess emission reductions can be traded.

The cost of implementing the proposed NO<sub>x</sub> and SO<sub>x</sub> rules for RECLAIM is estimated to be \$80.8 million annually, on average, over the analysis period from 1994 to 1999. The corresponding cost for the 1991 AQMP command-and-control system is about \$138.7 million annually, on average. The cost of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules is, therefore, estimated to be approximately 42 percent less than the cost of the command-and-control system. The output in the four-county economy is projected to be \$608.7 billion in 2000.

**V-3 What are the job impacts of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules compared with those of the command-and-control system?**

Compared with the baseline job growth, the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are predicted to result in 1,147 fewer jobs foregone than the 1991 AQMP command-and-control system between 1994 and 1999 (i.e. a 57 percent reduction in jobs). The NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are predicted to result in approximately 866 jobs foregone, while the command-and-control system is predicted to result in about 2,013 jobs foregone, on average, per year from 1994 to 1999. The four-county economy is projected to have approximately 8.3 million jobs in 2000. Beyond the year 2000, impacts are uncertain due to limitations related to the input data for the economic models used in the analysis.

**V-4 Do the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules result in shifts from high-skilled to low-killed jobs or from one ethnic group to another?**

No. According to their median weekly earnings, occupations were classified into five groups from the lowest-paid to the highest-paid. Compared with the 1991 AQMP command-and-control system, the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are projected to result in increased employment opportunities for nearly every group of occupations over the period of analysis. However, there are no discernible differences in the distribution of job impacts among occupational groups.

Using the ethnic employment data in the 1990 Census, the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are projected to have increased job opportunities, in aggregate, for all the ethnic groups as compared with the command-and-control system. However, across all ethnic groups, the non-manufacturing sector would experience fewer jobs foregone, while the manufacturing sector would experience a minor increase in the number of jobs foregone. The trend of

moving towards a more service-based economy is commensurate with various projections provided by the private sector.

## **VI. Summary of the Environmental Assessment**

The following is a summary of the Environmental Assessment conducted on the proposed RECLAIM program prior to its adoption on October 15, 1993. For a complete discussion of the potential environmental impacts and an evaluation of alternative proposals, please see Volume III of the final RECLAIM Development Report.

### **VI-1 Why are the proposed NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules subject to the California Environmental Quality Act (CEQA)?**

The District determined that the proposed NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs constituted "projects" as defined by the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.). The District was the lead agency for these projects and prepared the appropriate environmental analysis pursuant to the requirements for certified regulatory programs (Public Resources Code Section 21080.5). Section 21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The District's regulatory program, Rule 110, was certified by the Secretary of the Resources Agency on March 1, 1989. Therefore, pursuant to state and District CEQA Guidelines, and Rule 110, the Draft Environmental Assessment (EA) for the proposed NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs was prepared.

### **VI-2 What are the potential environmental impacts that could be generated by the proposed NO<sub>x</sub> and SO<sub>x</sub> rules?**

The EA for the proposed RECLAIM NO<sub>x</sub> and SO<sub>x</sub> programs identified 14 environmental topics in which potential adverse impacts may occur as a result of implementing the proposed programs. Those areas are as follows: air quality, water resources, land use, population, housing, transportation/circulation, recreation, risk of upset, public services, energy, natural resources (combined with energy), utilities (solid waste), utilities (communications), and human health. Potential impacts in the areas of air quality, water resources, risk of upset and human health along with mitigation measures, where appropriate, are summarized below. The following subsections are intended only as summaries of these principal areas of potential impacts. For a comprehensive analysis of impacts and mitigation measures, the reader is referred to Chapter 8 of Volume III of the RECLAIM NO<sub>x</sub> and SO<sub>x</sub> Development Report.



## **Air Quality Impacts**

### **VI-3 What are the effects on ozone that may result from implementing the proposed projects?**

Computer simulations predicted that there will be no substantial difference in peak regional ozone concentrations in the Basin between the AQMP command-and-control approach and the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules. The overall pattern of peak areas of ozone concentrations in the Basin remained nearly the same as projected in the AQMP command-and-control approach. In general, NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules will result in lower concentrations of ozone in the western and central areas of the Basin than the AQMP command-and-control approach.

Some ozone increases, relative to the ozone projections in the AQMP command-and-control approach, were seen, particularly in southern Los Angeles County and northern Orange County. Approximately ten (less than 0.5 percent) of over 2,300, twenty-five square kilometer grid cells showed delays in ozone reduction above the District's significance level. These cells included portions of the SEDAB. Except for slight increases in some counties in 1994, all counties showed about the same or lower ozone exposure under the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs than projected under the AQMP command-and-control approach, through 2000.

### **VI-4 What are the effects on nitrogen dioxide that may result from implementing the proposed projects?**

Modeling data showed that both the AQMP command-and-control approach and the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are expected to achieve the state and federal NO<sub>2</sub> standards, although the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs will have slightly lower average NO<sub>2</sub> concentrations Basin-wide in 1994 and slightly higher average NO<sub>2</sub> concentrations in 1997 and 2000.

NO<sub>x</sub> emission reductions under RECLAIM are more gradual than that projected under the AQMP command-and-control approach. Those delayed emission reductions do not, however, prevent the attainment of the state or federal NO<sub>2</sub> standards.

### **VI-5 What are the potential effects on sulfur dioxide that may result from implementing the proposed project?**

The Basin is currently in attainment with the state and federal ambient air quality standards for sulfur dioxide (SO<sub>2</sub>). The SO<sub>x</sub> RECLAIM program was proposed in order to maintain the Basin's SO<sub>2</sub> attainment status, and further reductions in SO<sub>x</sub> emissions will contribute to attaining the ambient air quality standards for PM<sub>10</sub>. Under the SO<sub>x</sub> RECLAIM rules,

SO<sub>x</sub> emissions reductions will occur more rapidly in the early years and equal to that which was predicted under the 1991 AQMP in the later years. Additionally, emission reductions under the RECLAIM SO<sub>x</sub> rules will exceed those currently obtained by existing District rules with future compliance dates.

**VI-6 What are the effects on PM<sub>10</sub> that may result from implementing the proposed projects?**

Computer simulations predicted that under the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs and the 1991 AQMP all source receptor areas except those in Rubidoux and Ontario will attain the federal annual average PM<sub>10</sub> standard in the year 2000. According to the 1991 AQMP, Rubidoux and Ontario are not projected to be in attainment with the federal standard until 2006.

PM<sub>10</sub> was modeled for the following five source receptor areas: Long Beach, Los Angeles, Burbank, Ontario, and Rubidoux. Modeling performed for both the AQMP command-and-control approach and the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs indicated that neither the AQMP command-and-control approach nor the RECLAIM programs will attain the state annual geometric mean or the state 24-hour average ambient air quality standards for PM<sub>10</sub> by the year 2000. Although the RECLAIM NO<sub>x</sub> and SO<sub>x</sub> programs result in a slight increase in PM<sub>10</sub> concentrations, three of the five source receptor areas will meet the federal Annual Average PM<sub>10</sub> standard by the year 2000 just as under the AQMP command-and-control approach. Additionally, modeling indicated that the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are projected to bring the Basin into attainment with the federal 24-hour PM<sub>10</sub> standard by the year 2000 for all sites. The proposed regulations may, nevertheless, be slightly slower in attaining both state and federal ambient air quality standards for PM<sub>10</sub> at some locations compared to the AQMP command-and-control approach, but not significantly so.

**VI-7 What are the potential effects on visibility that may result from implementing the proposed projects?**

Visibility in the Basin for the year 2000 is projected to decrease slightly under the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs compared to the AQMP command-and-control approach. However, this is a small decrease of less than one percent for all locations analyzed. The model projected little change at inland locations, where the most serious visibility problems occur. Therefore, the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules are expected to have negligible effects on improvements in visibility projected for the AQMP command-and-control approach.

**VI-8 Were mitigation measures identified to reduce potential impacts that may be generated by the proposed projects?**

A variety of mitigation measures were evaluated as possible actions to eliminate potential impacts. These included alternative Allocation methods, rates of reduction, changes to the universe of sources, and trading restrictions. The feasibility of each option was examined according to the CEQA definition which states that "feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." (CEQA Guidelines sec. 15364.) The staff's proposal presented the best balance of these factors, while maintaining compliance with AB 1054 and achieving economic, social, and technological acceptability.

**VI-9 What are the potential effects on toxic air pollutants that may result from implementing the proposed projects?**

There are six potential types of toxic air pollutant impacts from the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM rules: (1) changes in emissions or ambient concentrations of toxic substances on a regional basis, (2) changes in the air toxic emissions from categories of sources (control categories), (3) impacts on allowable emissions from new or modified sources, (4) changes in the emissions of air toxics from existing sources (facilities), (5) changes in emissions due to the timing of control measure implementation, and (6) changes in emissions due to the use of different types of control measures.

RECLAIM will affect emissions of air toxics in the same way as the existing command-and-control program. Potential increases in air toxics emissions from newly constructed sources will be regulated in the same manner under the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs as under the AQMP command-and-control approach. The number of existing facilities whose emissions of air toxics are potentially affected by the NO<sub>x</sub> and SO<sub>x</sub> emissions trading program is small. Moreover, potential increases in emissions of air toxics because of equipment or process modifications would be subject to the same air toxic regulations as under the AQMP. There would not be significant impacts to regional ambient concentrations of air toxics relative to the existing command-and-control system. The implementation of specific control technologies by groups of sources may be delayed or accelerated by a few years under the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs. Differences in the timing of implementing control measures will not result in significant air toxics impacts and the types of control technologies available to sources will be identical under both programs. No mitigation measures beyond those identified in the 1991 AQMP FEIR and the FEIR for the 1992 AQMP Amendments are necessary. No significant cumulative impacts on emissions of toxic air contaminants are expected from the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs.

**VI-10 What are the effects on stratospheric ozone depleting compounds that may result from implementing the proposed projects?**

The NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs will not change actions under the Montreal Protocol, the federal Clean Air Act Amendments, District Policy, or Regulation XIV; and will not exempt facilities from its provisions. In addition, the NO<sub>x</sub> and SO<sub>x</sub> programs will not influence the use of exempt, chlorinated solvents since NO<sub>x</sub> and SO<sub>x</sub> emissions are primarily associated with combustion emissions. No mitigation is necessary or required since no adverse impacts on stratospheric ozone are expected from the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs. No significant cumulative impacts on stratospheric ozone are expected from the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs.

**Water, Risk of Upset, Health and Other Impacts**

**VI-11 What potential water, risk of upset or health impacts may result from implementing the proposed projects?**

Potential water quality impacts are not expected to be greater than anticipated from the 1991 AQMP. Potential water demand impacts are associated with the hydrodesulfurization process and add-on control equipment. Implementing all feasible mitigation measures would not reduce project-specific or cumulative water demand impacts to insignificance under the AQMP or the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs. All feasible mitigation measures were identified in the 1991 AQMP FEIR and will continue to be implemented.

Potential risk of upset impacts of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs are anticipated to be equivalent or less than implementing the 1991 AQMP. Since the risk of upset impacts of the 1991 AQMP would be considered significant today, the risks would remain the same under the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs. All feasible mitigation measures were identified in the 1991 AQMP EIR and will continue to be implemented.

The NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs will not have significant human health impacts since they are expected to result in equivalent if not lower risk of upset impacts than under current conditions. No significant adverse cumulative human health impacts are expected.

**VI-12 What other environmental topics were analyzed to determine if the proposed projects would create adverse impacts?**

In the Notice of Preparation (NOP) for an Environmental Assessment, the District identified the potential for RECLAIM to generate adverse impacts in the following environmental areas: land use; population; housing; transportation/circulation; recreation; public services; energy/natural resources; and solid waste and communication utilities. The analysis in the Draft EA concluded that the proposed projects would not generate

significant adverse impacts beyond those identified for the 1991 AQMP in these environmental areas and, therefore, no additional mitigation measures were required or proposed.

## **VII. Program Equivalency**

Throughout the development of RECLAIM, the District sought to design the program to comply with applicable state and federal requirements. Table EX-1 summarizes the major federal and state requirements and shows RECLAIM's corresponding compliance.

**Table EX-1  
SUMMARY OF MAJOR FEATURES**

| <b>Federal Requirement</b>  | <b>State Requirement</b>   |
|---|--|
| <b>Overall Rates of Reduction</b> <ul style="list-style-type: none"> <li>• 3% per Year After 1996</li> <li>• Photochemical Modeling</li> </ul>  | <b>Overall Rates of Reduction</b> <ul style="list-style-type: none"> <li>• 5% per Year</li> </ul>  |
| <b>Public Health</b> <ul style="list-style-type: none"> <li>• Hourly NAAQS for Ozone</li> </ul>   | <b>Public Health</b> <ul style="list-style-type: none"> <li>• Health Based Standard</li> <li>• Reduce Per Capita Exposure by 25% in 1994<br/>40% by 1997, and 50% by 2000</li> </ul>   |
| <b>NSR</b> <ul style="list-style-type: none"> <li>• LAER for New or Modified Sources</li> <li>• Offset Emission Increases</li> <li>• Major Sources &gt; 10 Tons per Year</li> </ul>   | <b>NSR</b> <ul style="list-style-type: none"> <li>• Sensitive Zone Requirements</li> <li>• Offset Emission Increases</li> <li>• BACT for New or Modified Sources</li> <li>• No Net Emissions Increase</li> </ul>   |
| <b>Existing Sources</b> <ul style="list-style-type: none"> <li>• RACT for Major Sources</li> <li>• RACT for CTG Sources</li> <li>• Clean Fuels for Industrial Boilers</li> </ul>  | <b>Existing Sources</b> <ul style="list-style-type: none"> <li>• BARCT</li> </ul>  |
| <b>Economic Incentives</b> <ul style="list-style-type: none"> <li>• Required if Fail to Meet Progress Requirements</li> </ul>   | <b>Economic Incentives</b> <ul style="list-style-type: none"> <li>• AB 1054</li> <li>-Equivalent Reductions at Less Cost</li> <li>-No Greater Job Loss or Skill Loss</li> <li>-Equitable Baselines</li> <li>-No Disproportionate Impacts</li> <li>-Comparable Enforcement</li> <li>-Predetermined Credit Price</li> <li>-Mobile and Area Sources</li> <li>-Credit Price Ceiling</li> </ul> |
| <b>Enforcement</b> <ul style="list-style-type: none"> <li>• State and Local Plan Regulations Subject to Federal Approval for Enforceability (SIP)</li> <li>• Title V Conditions Federally Enforceable</li> <li>• Penalties to Provide Adequate Deterrent</li> </ul> | <b>Enforcement</b> <ul style="list-style-type: none"> <li>• Local Plans and Regulations Subject to State Approval for Enforceability</li> </ul>  |

**Table EX-1 (cont.)  
SUMMARY OF MAJOR FEATURES**

| <b>RECLAIM Demonstration</b>  |
|---|
| <p><b>Overall Program</b></p> <ul style="list-style-type: none"> <li>• Emissions capped</li> <li>• NO<sub>x</sub> annual rate of reduction 8.3 %</li> <li>• SO<sub>x</sub> annual rate of reduction 6.8 %</li> </ul>  |
| <p><b>Public Health</b></p> <ul style="list-style-type: none"> <li>• Air Quality Improvements Equal to AQMP</li> <li>• Basin-wide Per Capita Exposure Equal or less than AQMP</li> <li>• No Increased Toxic Exposure</li> </ul>   |
| <p><b>Federal Requirements</b></p> <ul style="list-style-type: none"> <li>• RACT on Aggregate Basis</li> <li>• Require Clean Fuels for Industrial Boilers</li> <li>• Economic Incentives Program</li> <li>• New Source Review Tracking System</li> <li>• Hourly Ozone Standard Simulations</li> </ul>   |
| <p><b>California Clean Air Act Requirements</b></p> <ul style="list-style-type: none"> <li>• Reductions 5% Per Year</li> <li>• BARCT Accomplished on Aggregate Basis</li> <li>• No Net Increase NSR Program</li> <li>• Air Quality Modeling</li> </ul>  |
| <p><b>Market Incentives</b></p> <ul style="list-style-type: none"> <li>• Cost Impacts of RECLAIM 42% less than AQMP</li> <li>• Equivalent Reductions for AQMP, 1994-2003</li> <li>• Remaining Emissions About the Same as Existing Rules in 1997, Same in 2000</li> <li>• 1,689 Fewer Jobs Foregone than AQMP</li> <li>• Baseline Acknowledges Past Control Efforts</li> <li>• Similar Reductions for RECLAIM and Non-RECLAIM Sources</li> <li>• Predetermined Credit Price Set at Highest Forecast Values</li> <li>• Mobile Source Credit Trading</li> </ul> |
| <p><b>Enforcement</b></p> <ul style="list-style-type: none"> <li>• Quarterly Certified Reports</li> <li>• Monitoring Protocols</li> <li>• Penalties</li> <li>• Backstops</li> </ul>   |