

BOARD MEETING DATE: March 3, 2006

AGENDA NO. 33

REPORT: Annual RECLAIM Audit Report for 2004 Compliance Year

SYNOPSIS: The annual report on the NO_x and SO_x RECLAIM program is prepared in accordance with Rule 2015 - Backstop Provisions. The report assesses emission reductions, average annual price and availability of RECLAIM Trading Credits (RTCs), job impacts, compliance issues, and other measures of performance for the eleventh year of this program. A list of facilities unable to reconcile their emissions for the compliance year is included with the report.

COMMITTEE: Stationary Source, February 24, 2006

RECOMMENDED ACTION:
Receive and file the attached report.

Barry R. Wallerstein, D.Env.
Executive Officer

CC:CM:DL:ch

Background

The Board adopted the RECLAIM program on October 15, 1993 to provide a more flexible compliance program for RECLAIM facilities, representing the largest emitters of NO_x and SO_x. RECLAIM was designed to meet all state and federal requirements for clean air programs and a variety of performance criteria to ensure protection of public health, air quality improvement, effective enforcement, implementation costs, and minimal job impacts.

RECLAIM represents a significant departure from traditional command-and-control regulations. Therefore, the RECLAIM rules provide for annual program audits to verify that the program objectives are being met. Rule 2015 – Backstop Provisions requires AQMD to conduct an annual program audit to assess various aspects of the program to

verify that the program objectives are being met. AQMD staff completed the audit of RECLAIM Compliance Year 2004. The audit results showed that the aggregate NOx emissions were again achieving programmatic compliance and were 20 percent less than the aggregate NOx allocations for Compliance Year 2004. SOx emissions continued to be less than SOx allocations, by 17 percent for Compliance Year 2004. Annual average prices for both NOx and SOx RTCs were all below the backstop threshold of \$15,000 per ton. During Calendar Year 2005, prices for NOx RTCs valid for Compliance Years 2006 and after, especially for those RTCs traded in multi-year streams, were increasing. When compared to prices for same NOx RTCs traded in Calendar Year 2004, the annual average prices in Calendar Year 2005 were higher for RTCs valid for every Compliance Year except Compliance Years 2004 and 2005.

Audit Findings

The audit of the Compliance Year 2004 RECLAIM program indicates that:

- Aggregate NOx and SOx emissions from RECLAIM facilities were below allocations.
- The RECLAIM universe consisted of 324 facilities at the end of the 2003 compliance year. There was a net decrease of thirteen facilities in the RECLAIM universe during the 2004 compliance year. Thus, there were 311 facilities in the RECLAIM universe at the end of the 2004 compliance year.
- Thirteen (13) RECLAIM facilities shut down or were reported to be out of business during the 2004 compliance year. These facilities shut down mainly due to economic reasons. Only three of these facilities attributed the closing, in part, to RECLAIM.
- The majority of RECLAIM facilities complied with their Allocations during the 2004 compliance year. At the time of preparation of this report, thirteen facilities exceeded their Allocations during the 2004 compliance year. Failure to obtain sufficient RTCs to reconcile with emissions was the leading cause of exceedance.
- RECLAIM had minimal impact on employment during the 2004 compliance year, as in previous years. An overall net loss of 1,807 jobs was reported by RECLAIM facilities. Two facilities attributed 31 jobs lost due to RECLAIM. Two others reported a total of four jobs gained due to RECLAIM.
- The RTC trading market remained active. A total of \$780 million in RTCs have been traded since the adoption of RECLAIM, of which \$57.4 million occurred in Calendar Year 2005. The annual average NOx and SOx RTCs prices were all below the backstop prices of \$15,000 per ton. Prices for future year NOx RTCs, especially those traded in multi-year streams, increased during Calendar Year 2005. The annual

average prices for NOx RTCs valid for Compliance Year 2008 and after were the highest since the start of the program. Annual average prices for NOx RTCs ranged from \$9,730 per ton of Compliance Year 2008 NOx RTCs to \$10,193 per ton of NOx RTCs for Compliance Years 2010. RTCs valid beyond Compliance Year 2010 were traded at average prices around \$9,800 per ton. In addition to individual year RTC trades, RTCs were also traded as a block of RTCs valid for all years after a start year at a single price per pound for the whole block. Average prices for these “infinite-year” RTCs blocks were \$10,678 and \$6,084 per ton of NOx and SOx, respectively. Annual average prices during 2003, 2004, and 2005 are summarized as follow:

| 2003 | 2004 | 2005 |
|---|--|---|
| <ul style="list-style-type: none"> • \$3,795 per ton for 2003 NOx RTCs • \$6,377 per ton for 2004 NOx RTCs • \$7,750 per ton for 2010 NOx RTCs • \$5,664 per ton for 2003 SOx RTCs • \$9,595 per ton for 2004 SOx RTCs • \$10,059 per ton for 2010 SOx RTCs | <ul style="list-style-type: none"> • \$1,359 per ton for 2003 NOx RTCs • \$2,633 per ton for 2004 NOx RTCs • \$4,792 per ton for 2010 NOx RTCs • \$1,026 per ton for 2003 SOx RTCs • \$3,052 per ton for 2004 SOx RTCs • No SOx RTC beyond Compliance Year 2004 was transferred with price | <ul style="list-style-type: none"> • \$1,195 per ton for 2004 NOx RTCs • \$3,630 per ton for 2005 NOx RTCs • \$10,193 per ton for 2010 NOx RTCs • \$1,400 per ton for 2004 SOx RTCs • \$1,953 per ton for 2005 SOx RTCs • \$4,304 per ton for 2010 SOx RTCs |

- During Calendar Year 2005, mutual funds started to trade RTCs in addition to the traditional RTC traders, such as RECLAIM facilities, brokers, commodity traders and private investors. To date, there have been four mutual funds under one fund manager that have participated in RTC trades. Also, a contingent right to sell RTCs was first reported to the AQMD in Calendar Year 2005. This contingent right allows the owner to sell RTCs at a set price if he or she decides to exercise the option.

Attachment

Annual RECLAIM Audit Report for 2004 Compliance Year

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**Annual RECLAIM Audit Report for the
2004 Compliance Year**

March 3, 2006

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TABLE OF CONTENTS

Executive Summary _____ **ES-1**

INTRODUCTION _____ **I-1**

Chapter 1: RECLAIM Universe _____ 1-1
Chapter 2: RTC Allocations and Trading _____ 2-1
Chapter 3: Emission Reductions _____ 3-1
Chapter 4: New Source Review Activity _____ 4-1
Chapter 5: Compliance _____ 5-1
Chapter 6: Job Impacts _____ 6-1
Chapter 7: Air Quality and Public Health Impacts _____ 7-1

List of Abbreviations

Appendix A: RECLAIM Universe of Sources
Appendix B: Facility Inclusions
Appendix C: RECLAIM Facilities Ceasing Operation or Excluded
Appendix D: Facilities that were Unable to Reconcile Emissions for Compliance Year
2004
Appendix E: Job Impacts Attributed to RECLAIM
Appendix F: Quarterly NOx Emission Maps
Appendix G: Quarterly SOx Emission Maps

EXECUTIVE SUMMARY

Introduction

The South Coast Air Quality Management District (AQMD) Governing Board adopted the REgional CLean Air Incentives Market (RECLAIM) program on October 15, 1993. The RECLAIM program represents a significant departure from traditional command-and-control regulations. RECLAIM's objective is to provide facilities with added flexibility in meeting emissions reduction requirements while lowering the cost of compliance. This is accomplished by establishing facility-specific emissions reduction targets without being prescriptive regarding the method of attaining compliance with the targets; each facility may determine for itself the most cost-effective approach to reducing emissions, including purchasing emission credits from facilities that reduce emissions below their target levels.

Rule 2015 - Backstop Provisions, includes provisions for annual program audits focusing on specific topics, as well as a more comprehensive three-year audit to ensure that RECLAIM is meeting all state and federal requirements and other performance criteria. This document constitutes the Rule 2015 annual audit for the 2004 compliance year (January 1 through December 31, 2004 for Cycle 1 and July 1, 2004 through June 30, 2005 for Cycle 2).

Chapter 1: RECLAIM Universe

When RECLAIM was adopted in October 1993, 394 facilities were identified as the initial "universe" of sources subject to the requirements of RECLAIM. Between program adoption through the end of Compliance Year 2003, 104 facilities were included into the program, 67 were excluded from the program, and 107 facilities ceased operation. Thus, the RECLAIM universe consisted of 324 facilities on July 1, 2004. During Compliance Year 2004, two facilities were included into the RECLAIM universe, while 13 facilities shut down. Four facilities were merged into two facilities which resulted in two exclusions from the RECLAIM universe. These changes resulted in a net decrease of 13 facilities in the universe, bringing the total number of facilities to 311 at the end of Compliance Year 2004. All of these changes occurred within the oxides of nitrogen (NOx) universe. Two of the facilities which shut down also participated in the oxides of sulfur (SOx) market. Thus, the SOx RECLAIM universe had 33 facilities at the end of the 2004 compliance year.

Chapter 2: RTC Allocations and Trading

The primary source of RECLAIM Trading Credits (RTCs) available for trading is the aggregate of all allocations issued to RECLAIM facilities. These RECLAIM Allocations incorporated emission reduction requirements in AQMD rules and the control measures and projections specified in the Air Quality Management Plan (AQMP). RTCs can also be converted from credits generated under other AQMD rules – Mobile Source Emission Reduction Credits (MSERCs) and Area Source Credits (ASCs).

During Compliance Year 2004, there were only slight changes to the NOx RTC supply. For Compliance Year 2004, there was a net decrease of 6.1 tons due to

adjustment for clean fuel production and due to historical activity adjustment. For Compliance Years 2005 and 2006, the NOx RTC supply was increased by 0.9 ton due to corrections to historical activity. Between Compliance Years 2007 and 2011, the NOx Allocations were increased pursuant to Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx). As a result, NOx RTCs were increased by 0.77, 0.75, 0.73, and 0.7 tons per year for Compliance Years 2007 through 2010, respectively. For Compliance Years 2011 and after, the NOx RTC increase was 0.68 tons per year. On the other hand, the SOx RTC supply for Compliance Year 2004 decreased by 0.1 ton due to adjustment for clean fuel production. There was no other change to the SOx RTC supply for future years.

The Calendar Year 2005 trading market continues to be active with 740 registered RTC transactions, a total volume of 17,376 tons, and a total value over \$57 million. Since the inception of the RECLAIM program in 1994, a total of \$780 million were traded in the RTC trading market. In 2005, there were a total of 7,934 tons of NOx RTCs traded with prices and a total value of \$53.7 million in value. This volume was 21 percent higher than the total volume of NOx RTCs traded with prices in 2004. The total value traded was more than double that traded in 2004. This is a result of higher prices for future NOx RTCs that are valid for Compliance Year 2006 and after. Specifically, annual average prices for NOx RTCs valid for Compliance Year 2008 and after were highest since the start of the program. Annual average prices for NOx RTCs ranged from around \$9,730 per ton of Compliance Year 2008 NOx RTCs to around \$10,193 per ton of NOx RTCs for Compliance Years 2010. RTCs valid beyond Compliance Year 2010 were traded at average prices around \$9,800 per ton. NOx RTCs for future years (compliance year 2007 and beyond) were generally traded in multi-year streams that often include an infinite-year RTC block, which most commonly started from Compliance Year 2011 and extended through all years thereafter. However, the annual average prices for NOx RTCs valid for Compliance Year 2005 and earlier were lower than the annual average prices during Calendar Year 2004. NOx RTCs were traded at under \$1.00 per pound toward the end of the reconciliation period for each of the two cycles in the 2004 compliance year. In Calendar Year 2005, SOx RTC trades were more active, both in terms of volume and value, than in Calendar Year 2004 when the trading activity was at its lowest since 1995. The annual average prices for SOx RTCs were lower than those traded in Calendar Years 2002 and 2003. All annual average prices for NOx or SOx RTCs were under the \$15,000 per ton level set under Rule 2015.

Infinite-year block trades are trades of RTCs valid for all years after a certain start year wherein the RTCs are traded at a price per pound for the entire block of specified years instead of price per pound per year. Infinite-year RTC block trades most commonly included a block of RTCs that were valid starting from Compliance Year 2011 and extending through all years thereafter. There were other infinite-year RTC block trades involving other starting years. A price analysis for infinite-year block trades is performed separately from the RTCs sold for individual years. A total of 1,257 tons of NOx and 335 tons of SOx infinite-year RTC blocks were traded in 2005. The average prices were \$10,678 and \$6,084 per ton of NOx and SOx infinite-year RTC block, respectively. The average price for all infinite-year NOx RTC blocks traded in 2005 increased significantly over the average price (\$6,794 per ton) for infinite-year NOx RTC blocks traded in 2004.

During Calendar Year 2005, mutual funds started to trade RTCs in addition to the traditional RTC traders, such as RECLAIM facilities, brokers, commodity trades and private investors. To-date, there have been four mutual funds, which are under one fund manager, that have participated in RTC trades. Also, a contingent right to sell RTCs was first reported to the AQMD in Calendar Year 2005. This contingent right allows the owner to sell RTCs at a set price if he or she decides to exercise the option.

Chapter 3: Emission Reductions

Aggregate NO_x and SO_x emissions from RECLAIM facilities continued to be below allocations for Compliance Year 2004. SO_x emissions continued to decline and were below allocations by 17 percent. Whereas, Compliance Year 2004 NO_x emissions increased slightly by 0.1 percent from the Compliance Year 2003 level but were below allocations by approximately 20 percent.

In response to the California energy crisis' effects on the RECLAIM NO_x market, the AQMD Governing Board adopted rule amendments in May 2001 to stabilize RTC prices. The amendments included provisions curtailing RTC demand as well as increasing RTC supply. The Governing Board also adopted Rule 2020 – RECLAIM Reserve, which established the RECLAIM Air Quality Investment Program (AQIP), the Emissions Mitigation Fee Program, and the State Emission Reduction Credit Bank. These three programs were set up to provide eligible facilities with emission reduction credits. In Compliance Year 2004, no facility requested emission reductions from any of these three programs. No emissions associated with breakdowns were excluded from being accounted against facility allocations in Compliance Year 2004. Therefore, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Report.

Chapter 4: New Source Review Activity

The annual program audit assesses New Source Review (NSR) activity from RECLAIM facilities in order to ensure that RECLAIM is complying with federal and state NSR requirements, while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2004, two new facilities joined the RECLAIM NO_x program, while no facility joined the SO_x program. Twenty-eight RECLAIM facilities had NSR NO_x emission increases due to expansion or modification in Calendar Year 2004. Two facilities had minimal NSR SO_x emission increases. These data indicate that the RECLAIM program does not inhibit start-up of a new facility or expansion at existing RECLAIM facilities.

RECLAIM is required to comply with federal NSR requirements at a 1.2-to-1 offset ratio for NO_x and SO_x emission increases on a programmatic basis. In Calendar Year 2004, RECLAIM provided an offset ratio of 589-to-1 for NO_x and 6,979-to-1 for SO_x on an aggregate basis, demonstrating federal equivalency. Compliance with the federally required offset ratio also demonstrates compliance with the state requirement of no net emissions increases from new or modified sources. In addition, RECLAIM requires application of Best Available Control Technologies (BACT) for all new or modified sources with emission increases.

Chapter 5: Compliance

During the 2004 compliance year, there were 324 NOx facilities and 35 SOx facilities in operation in the RECLAIM program. Two new facilities elected to join the NOx RECLAIM Program. Of these 326 NOx RECLAIM facilities, 313 facilities (96 percent) complied with their NOx Allocations and all 35 SOx facilities complied with their SOx Allocations during Compliance Year 2004. Audits of facility records for the compliance year are still on-going. Preliminary results of the Compliance Year 2004 audits revealed that the overall RECLAIM NOx and SOx emission goals were met for this compliance year. Thirteen facilities were found to have exceeded their individual allocations. The amounts of emissions in excess of individual allocations ranged from 40 pounds to 41.6 tons and the combined excess NOx emissions from these thirteen facilities totaled 58 tons. The most common cause for exceeding allocation in Compliance Year 2004 was failure to obtain sufficient RTCs to reconcile with quarterly emissions.

Chapter 6: Job Impacts

Most of the facilities responding to a survey of the impact of the RECLAIM program on jobs reported that RECLAIM did not contribute to job losses or gains during Compliance Year 2004. A total net loss of 1,807 jobs was reported by all RECLAIM facilities. Two facilities attributed a total of 31 job losses to the RECLAIM program, and two facilities reported a total of 4 jobs gained due to RECLAIM. Thirteen RECLAIM facilities were listed as shut down during Compliance Year 2004. One of these facilities indicated that RECLAIM was a contributing factor in their decision to close. None of the shutdown facilities listed any jobs lost due to RECLAIM on the survey forms.

Chapter 7: Air Quality and Public Health Impacts

Emissions reported by RECLAIM facilities have been in an overall downward trend since the program's inception. Comparing emissions in Compliance Year 2004 to emissions in Compliance Year 2003, SOx emissions continued its downward trend, whereas, NOx emissions essentially remained the same (slightly higher by 0.1 percent). Quarterly NOx emissions ranged from approximately 3 percent below to 7 percent above the mean NOx emissions throughout Calendar Year 2004. Quarterly SOx emissions stayed within 5 percent of the mean SOx emissions. Thus, there is no seasonal fluctuation in emissions. Furthermore, this year's analysis, as in each previous year's analysis, of the geographical distribution of emissions on a quarterly basis does not show any distinct shift in the geographical distribution of emissions.

The California Clean Air Act (CCAA) requires a 50 percent reduction in population exposure to ozone by December 31, 2000. Analysis of per capita exposure (the length of time each person is exposed) to ozone in 1998 and 2000 shows that the Basin achieved the December 2000 target for ozone well before the deadline. In fact, Los Angeles County, Orange County, and the South Coast Air Basin overall achieved attainment with the December 2000 target prior to 1994 and Riverside and San Bernardino Counties achieved attainment in 1996. In Compliance Year 2004, the per capita exposure to ozone continues to be well below the target set for December 2000.

Air toxic health risk is primarily caused by emissions of volatile organic compounds (VOCs) and metals, rather than NO_x or SO_x emissions. Additionally, RECLAIM facilities are subject to the same air toxic regulations as other sources in the Basin. Therefore, it can be concluded that there is no toxic impact due to the implementation of the RECLAIM program beyond what would have occurred pursuant to the rules and control measures RECLAIM subsumed.

INTRODUCTION

The South Coast Air Quality Management District's REgional Clean Air Incentives Market program (RECLAIM) was adopted in October 1993 and replaces certain command-and-control regulations with a new market incentives program for facilities that meet the inclusion criteria. The goal of RECLAIM is to provide facilities with added flexibility in meeting emissions reduction requirements and to lower the cost of compliance. The RECLAIM program was designed to meet all state and federal requirements for clean air programs, as well as other performance criteria such as equivalent air quality improvement, equivalent enforcement, lower implementation costs, lower job impacts, and no adverse public health impacts.

Since RECLAIM represents a significant change from traditional command-and-control regulations, the RECLAIM rules include provisions for program audits in order to verify that the RECLAIM objectives are being met. The rules provide for both annual audits and a more comprehensive audit of the first three years of program implementation. The audit results are used to help determine whether any program modifications are appropriate.

The RECLAIM Program Three-Year Audit and Progress Report was presented to the Governing Board May 8, 1998. This report presents the annual audit and progress report of RECLAIM's eleventh compliance year (January 1 through December 31, 2004 for Cycle 1 and July 1, 2004 through June 30, 2005 for Cycle 2), also known as the 2004 compliance year. As required by Rule 2015–Backstop Provisions, subdivision (b), paragraph (1), this audit assesses:

- Emission reductions;
- Per capita exposure to air pollution;
- Facilities permanently ceasing operation of all sources;
- Job impacts;
- Average annual price of each type of RECLAIM Trading Credit (RTC);
- Availability of RTCs;
- Toxic risk reductions;
- New Source Review permitting activity;
- Compliance issues;
- Emission trends/seasonal fluctuations;
- Emission control requirement impacts on stationary sources in the program compared to other stationary sources identified in the Air Quality Management Plan (AQMP); and
- Emissions associated with equipment breakdowns.

The annual audit is organized into the following chapters:

1. RECLAIM Universe
This chapter discusses changes in the universe of RECLAIM sources that occurred during the 2004 compliance year.
2. RTC Allocations and Trading
This chapter summarizes changes in emissions allocations in the RECLAIM universe, RTC trading activity, and the average annual price, availability, and supply of RTCs.
3. Emission Reductions
This chapter assesses emissions trends and reductions for RECLAIM sources and emissions control requirement impacts on these sources compared to other stationary sources. The latest amendments made to the RECLAIM program and emissions associated with equipment breakdowns are also discussed.
4. New Source Review Activity
This chapter summarizes New Source Review (NSR) activity at RECLAIM facilities.
5. Compliance
This chapter discusses compliance activities and the compliance status of RECLAIM facilities and evaluates the effectiveness of the South Coast Air Quality Management District's (AQMD's) compliance program and the oxides of nitrogen (NOx) and oxides of sulfur (SOx) monitoring, reporting, and recordkeeping (MRR) protocols.
6. Job Impacts
This chapter addresses job impacts.
7. Air Quality and Public Health Impacts
This chapter discusses air quality trends in the South Coast Air Basin, seasonal and geographic emission trends for RECLAIM sources, per capita exposure to air pollution, and the toxic impacts of RECLAIM sources.

CHAPTER 1 RECLAIM UNIVERSE

Summary

When RECLAIM was adopted in October 1993, 394 facilities were identified as the initial “universe” of sources subject to the requirements of RECLAIM. Between program adoption through the end of Compliance Year 2003, 104 facilities were included into the program, 67 were excluded from the program, and 107 facilities ceased operation. Thus, the RECLAIM universe consisted of 324 facilities on July 1, 2004. During Compliance Year 2004, two facilities were included into the RECLAIM universe, while 13 facilities shut down. Four facilities were merged into two facilities which resulted in two exclusions from the RECLAIM universe. These changes resulted in a net decrease of 13 facilities in the universe, bringing the total number of facilities to 311 at the end of Compliance Year 2004. All of these changes occurred within the NOx universe. Two of the facilities which shut down also participated in the SOx market. Thus, the SOx RECLAIM universe had 33 facilities at the end of the 2004 compliance year.

Background

The RECLAIM program replaced the traditional “command-and-control” rules for a defined list of facilities participating in the program (the RECLAIM “universe”). The criteria for inclusion in the RECLAIM program are specified in Rule 2001 – Applicability. Facilities are generally subject to RECLAIM if they have NOx or SOx emissions greater than or equal to four tons in 1990 or any subsequent year, although certain facilities are categorically excluded from RECLAIM. The categorically excluded facilities include restaurants, police and fire fighting facilities, potable water delivery operations, and all facilities located in the Riverside County portions of the Mojave Desert Air Basin and the Salton Sea Air Basin. Furthermore, there are other categories of facilities that are not automatically subject to RECLAIM, but individual facilities in these categories have the option to enter the program at their discretion. These categories include ski resorts, prisons, hospitals, publicly-owned municipal waste-to-energy facilities, and agricultural facilities. An initial universe of 394 RECLAIM facilities was developed using these criteria based on 1990, 1991, and 1992 facility emissions data.

A facility that is not categorically excluded from the program may voluntarily join RECLAIM, regardless of its emission level. Additionally, a facility may be required to enter the RECLAIM universe if:

- It increases its emissions above the four-ton threshold; or
- It ceases to belong to an exempt category; or
- It is discovered by AQMD staff to meet the applicability requirements of RECLAIM, but was initially misclassified as not subject to RECLAIM.

The facilities in the RECLAIM universe were issued an annually declining allocation of emission credits (“RECLAIM Trading Credits” or “RTCs”) that constitutes an annual emissions budget. RTCs may be bought or sold as the facilities deem appropriate.

RECLAIM facilities that permanently go out of business after January 1, 1994 (Cycle 1) or after July 1, 1994 (Cycle 2) are removed from the active emitting RECLAIM universe, but may retain their RTCs and participate in the trading market.

Universe Changes

The RECLAIM rules include several mechanisms to exclude facilities originally included in the universe and to add new facilities to the universe. The overall changes to the RECLAIM universe from the date of adoption through the end of Compliance Year 2003 were: inclusion of 104 facilities (79 facilities were included and 25 facilities were created by partial change of operator of existing RECLAIM facilities), exclusion of 67 facilities, and 107 facility shutdowns. Thus, the net change in the RECLAIM universe during the first 10 compliance years was a decrease from 394 to 324 facilities. During Compliance Year 2004, two facilities were included into the RECLAIM program, two facilities were excluded by merging them into existing facilities, and 13 facilities shut down. These changes brought the total number of facilities in the RECLAIM universe to 311 facilities by the end of Compliance Year 2004. All the changes occurred within the NOx RECLAIM universe. Among the 13 shutdown facilities, two of the facilities also participated in the SOx RECLAIM universe.

Table 1-1 summarizes the changes in the RECLAIM universe between the start of program and the end of Compliance Year 2004. The most current list of facilities in the RECLAIM universe as of June 30, 2005 is provided in Appendix A.

**Table 1-1
RECLAIM Universe Changes**

| | NOx Facilities | SOx Facilities | Total Facilities |
|------------------------------------|---------------------------|---------------------------|-----------------------------|
| Start of Program | 392 | 41 | 394 |
| Inclusions—1994-2003 | 104 | 8 | 104 |
| Exclusions—1994-2003 | 66 | 4 | 67 |
| Shutdowns—1994-2003 | 106 | 10 | 107 |
| End of Compliance Year 2003 | 324 | 35 | 324 |
| Inclusions—2004 | 2 | 0 | 2 |
| Exclusions—2004 | 2 | 0 | 2 |
| Shutdowns—2004 | 13 | 2 | 13 |
| End of Compliance Year 2004 | 311 | 33 | 311 |

Facility Inclusions and Exclusions

During Compliance Year 2004, two facilities entered the RECLAIM program voluntarily. Both facilities opted to participate in the NOx market. Three other

facilities also filed applications to enter the RECLAIM program. While a facility may apply for entry into the RECLAIM program, it is not officially included in the program until it is issued a Facility Permit. The Facility Permits for these three facilities were either issued after the end of Compliance Year 2004, or the applications are currently pending. The two facilities which were included are listed in Appendix B.

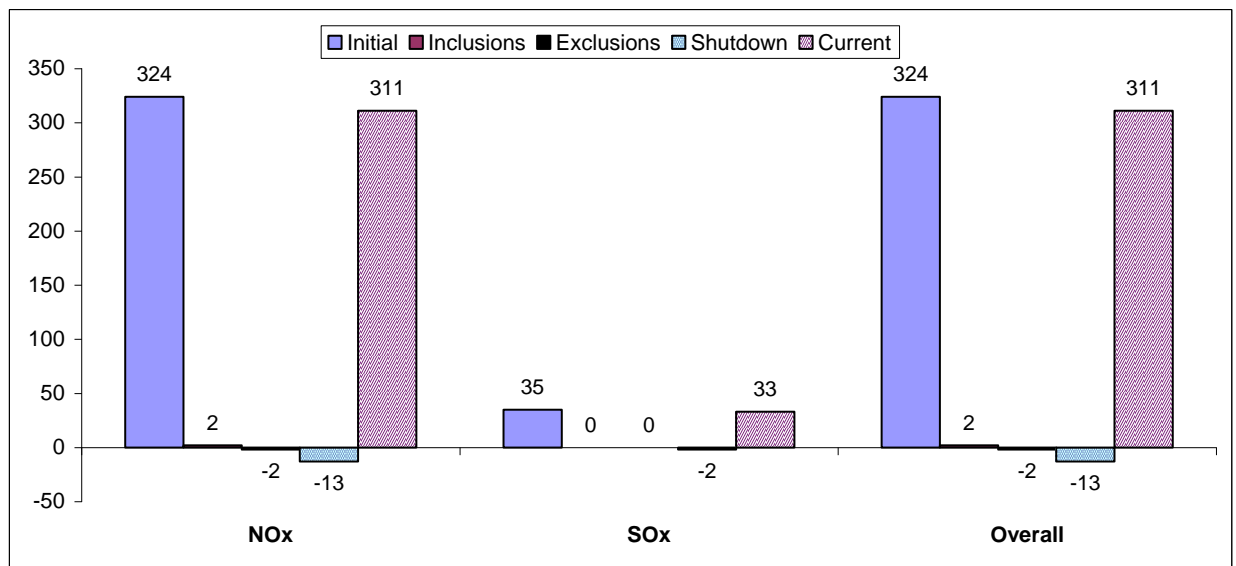
Two pairs of adjacent facilities were each merged into two individual facilities. This resulted in two facilities being excluded from RECLAIM in Compliance Year 2004. The RTCs held by these two excluded facilities were transferred into the two remaining facility RTC accounts.

Facilities Permanently Ceasing Operations

Twelve RECLAIM facilities permanently ceased operation between January 1, 2004 and June 30, 2005. One additional facility canceled all permits at the facility, but still operates equipment which is exempt from permit requirement under Rule 219 – Equipment Not Requiring A Written Permit Pursuant To Regulation II. Shutdown facilities have the option to retain or sell their RTCs. Of the total thirteen facilities, three cited air pollution regulations as a contributing factor in their decision to cease operation. Appendix C lists facilities that were excluded or were shutdown and brief descriptions of the known reasons for closing down operations.

Two facilities which shut down were participating in both the NOx and SOx markets. The remaining facilities which shut down were NOx only facilities. These changes resulted in a net decrease of 13 facilities in the RECLAIM Universe. Figure 1-1 illustrates overall changes to the RECLAIM universe that occurred during Compliance Year 2004.

**Figure 1-1
Universe Changes during Compliance Year 2004**



CHAPTER 2

RTC ALLOCATIONS AND TRADING

Summary

The primary source of RTCs available for trading is the aggregate of all allocations issued to RECLAIM facilities. These RECLAIM Allocations incorporated emission reduction requirements in AQMD rules and the control measures and projections specified in the AQMP. RTCs can also be converted from credits generated under other AQMD rules – Mobile Source Emission Reduction Credits (MSERCs) and Area Source Credits (ASCs).

During Compliance Year 2004, there were only slight changes to the NOx RTC supply. For Compliance Year 2004, there was a net decrease of 6.1 tons due to adjustment for clean fuel production and due to historical activity adjustment. For Compliance Years 2005 and 2006, the NOx RTC supply was increased by 0.9 ton due to corrections to historical activity. Between Compliance Years 2007 and 2011, the NOx Allocations were increased pursuant to Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx). As a result, NOx RTCs were increased by 0.77, 0.75, 0.73, and 0.7 tons per year for Compliance Years 2007 through 2010, respectively. For Compliance Years 2011 and after, the NOx RTC increase was 0.68 tons per year. On the other hand, the SOx RTC supply for Compliance Year 2004 decreased by 0.1 ton due to adjustment for clean fuel production. There was no other change to the SOx RTC supply for future years.

The Calendar Year 2005 trading market continues to be active with 740 registered RTC transactions, a total volume of 17,376 tons, and a total value over \$57 million. Since the inception of the RECLAIM program in 1994, a total of \$780 million were traded in the RTC trading market. In 2005, there were a total of 7,934 tons of NOx RTCs traded with prices and a total value of \$53.7 million in value. This volume was 21 percent higher than the total volume of NOx RTCs traded with prices in 2004. The total value traded was more than double that traded in 2004. This is a result of higher prices for future NOx RTCs that are valid for Compliance Year 2006 and after. Specifically, annual average prices for NOx RTCs valid for Compliance Year 2008 and after were highest since the start of the program. Annual average prices for NOx RTCs ranged from around \$9,730 per ton of Compliance Year 2008 NOx RTCs to around \$10,193 per ton of NOx RTCs for Compliance Years 2010. RTCs valid beyond Compliance Year 2010 were traded at average prices around \$9,800 per ton. NOx RTCs for future years (compliance year 2007 and beyond) were generally traded in multi-year streams that often include an infinite-year RTC block, which most commonly started from Compliance Year 2011 and extended through all years thereafter. However, the annual average prices for NOx RTCs valid for Compliance Year 2005 and earlier were lower than the annual average prices during Calendar Year 2004. NOx RTCs were traded at under \$1.00 per pound toward the end of the reconciliation period for each of the two cycles in the 2004 compliance year. In Calendar Year 2005, SOx RTC trades were more active, both in terms of volume and value, than in Calendar Year 2004 when the trading activity was at its lowest since 1995. The annual average prices for SOx RTCs were lower than

those traded in Calendar Years 2002 and 2003. All annual average prices for NOx or SOx RTCs were under the \$15,000 per ton level set under Rule 2015.

Infinite-year block trades are trades of RTCs valid for all years after a certain start year wherein the RTCs are traded at a price per pound for the entire block of specified years instead of price per pound per year. Infinite-year RTC block trades most commonly included a block of RTCs that were valid starting from Compliance Year 2011 and extending through all years thereafter. There were other infinite-year RTC block trades involving other starting years. A price analysis for infinite-year block trades is performed separately from the RTCs sold for individual years. A total of 1,257 tons of NOx and 335 tons of SOx infinite-year RTC blocks were traded in 2005. The average prices were \$10,678 and \$6,084 per ton of NOx and SOx infinite-year RTC block, respectively. The average price for all NOx infinite-year RTC blocks traded in 2005 increased significantly over the average price (\$6,794 per ton) for infinite-year NOx RTCs traded in 2004.

During Calendar Year 2005, mutual funds started to trade RTCs in addition to the traditional RTC traders, such as RECLAIM facilities, brokers, commodity traders and private investors. To-date, there have been four mutual funds, which are under one fund manager, that have participated in RTC trades. Also, a contingent right to sell RTCs was first reported to the AQMD in Calendar Year 2005. This contingent right allows the owner to sell RTCs at a set price if he decides to exercise the option.

Background

When a facility enters the RECLAIM program, it may be issued allocations for each compliance year based on the facility's operational history and the methodology specified in Rule 2002. Allocations are issued as RTCs, denominated in pounds of NOx or SOx within a specific year. Each RTC may only be used for emissions occurring within the term of the RTC. The RECLAIM program has two staggered compliance cycles – Cycle 1 for the compliance period of January 1 through December 31 of each year, and Cycle 2 for the compliance period of July 1 of each year through June 30 of the following year. Each RECLAIM facility is assigned to either Cycle 1 or Cycle 2 and issued RTCs with corresponding periods of validity.

The issuance of allocations for future years provides RECLAIM facilities guidance to their future emission reduction requirements. Facilities can plan their compliance strategies by reducing actual emissions or securing required RTCs through trades (or a combination of the two), based on their operational needs.

Through trading, RECLAIM facilities may acquire RTCs issued for either cycle and apply them to emissions, provided that the RTCs are used for emissions occurring within their period of validity and the trades are made during the appropriate time period. After the end of each compliance year, RECLAIM facilities have a 60-day reconciliation period to account for their total annual emissions and to secure adequate RTCs.

In an effort to achieve additional NOx reductions pursuant to the 2003 AQMP Control Measure #2003 CMB-10 and requirements for demonstrating Best Available Retrofit Control Technology (BARCT) equivalency under state law, the AQMD embarked on the rule amendment process in early 2004. The process

included a detailed analysis of the state of control technology, and lengthy discussions with stakeholders including regulated industry, environmental groups, the California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA). On January 7, 2005, the AQMD Governing Board adopted several changes to the RECLAIM program. Among other amendments, the changes resulted in cumulative reductions of 7.7 tons NO_x per day, or more than 20 percent reduction, from all RECLAIM facilities by Compliance Year 2011 when fully implemented. The reductions are to be implemented in phases - 4 tons per day in 2007 and an additional 0.925 tons per day in each of the following four years, 2008-2011. By adopting these rule amendments, the AQMD showed that, relative to the subsumed control measures, RECLAIM is achieving "equivalent or greater emission reductions at equivalent or less cost" as required by California Health and Safety Code §39616(e).

Unlike other chapters in this report where data pertain to Compliance Year 2004, RTC prices discussed in this chapter are for Calendar Year 2005. RTC prices during Calendar Year 2004 were presented in the previous Annual RECLAIM Audit Report submitted to the Governing Board in March 2005.

RTC Allocations and Supply

The methodology for determining RTC Allocations is stated in Rule 2002. According to this rule, allocations for facilities may change when there is a change in the universe of RECLAIM facilities, when the reported historical activities are updated, and to compensate for additional emissions at facilities producing re-formulated gasoline. In addition, RTCs can be generated by conversions of emissions reductions from mobile and area sources. Changes in RTC supply during Compliance Year 2004 are discussed below. The aggregate of all RECLAIM facilities' allocations, conversions of emission reduction credits (ERCs) owned by RECLAIM and non-RECLAIM facilities, and conversion of ERCs from mobile sources and area sources, make up the total RTC supply in the program.

Allocations Adjustments Due to Inclusion and Exclusion of Facilities

Allocations for a facility are based on its historical operation and the emission reduction requirements under the command-and-control rules and the AQMP control measures subsumed by RECLAIM. As stated in Chapter 1 – RECLAIM Universe, during Compliance Year 2004, two new facilities opted into the NO_x RECLAIM Program; 13 facilities shut down and therefore were removed from the RECLAIM Universe, and four existing facilities were merged into two facilities. There was no change in the supply of RTCs caused by facilities that shut down or merged as the facilities retained the ownership of the RTCs and were allowed to sell their RTCs. For the two new facilities that opted in, no initial allocation was issued to them because they are new facilities with no prior operating history. Therefore, no changes to NO_x or SO_x RTCs supplies occurred as a result of inclusion and exclusion of RECLAIM facilities in Compliance Year 2004.

Allocations Adjustments Due to Clean Fuel Production

Rule 2002(c)(12) – Clean Fuel Adjustment to Starting Allocation, provides refineries with RTCs to compensate for actual emissions directly related to the production of CARB Phase II reformulated gasoline. The amount of RTCs eligible is based on actual emissions for the subject compliance year and historical production data. Based on the historical production data submitted under application, qualifying refineries were issued an aggregate baseline of 86.5 tons of NOx and 42.3 tons of SOx for Compliance Year 1999, 101.8 tons of NOx and 41.4 tons of SOx for Compliance Year 2000, and 98.4 tons of NOx and 40.2 tons of SOx for each subsequent Compliance Year. These facilities are required to submit records to substantiate actual emission increases due solely to production of reformulated gasoline annually. If actual emission increases or decreases for a subject year are different than the projected amount, the RTCs issued will be adjusted accordingly (i.e., excess RTCs issued will be deducted if emissions were less than the amount of RTCs issued; conversely, additional RTCs are issued if emission are higher than projected). For Compliance Year 2004, actual NOx and SOx emissions were lower than those projected at the time the applications were approved. As a result, 7.02 tons of NOx and 0.10 tons of SOx RTCs were reduced from refineries due to this rule section during Compliance Year 2004.

Changes in RTC Allocations Due to Activity Corrections

There was an adjustment made in Compliance Year 2004 to the NOx Allocation for one facility after it provided additional data to amend its Annual Emission Report (AER) for the base year used to establish its allocations. The amendments included the re-apportioning fuel usages, without changing the total fuel consumed, to different categories of equipment. This resulted in an increase of 0.88 tons of NOx RTCs in Compliance Year 2004 to 2006 (see Table 2-1). For Compliance Years 2007 and beyond, this increase of RTC Allocation for each compliance year was adjusted downward according to Rule 2002. For Compliance Years 2011 and beyond, there was an increase of 0.68 tons of NOx RTCs per year. There was no change to SOx RTC supply due to activity correction in Compliance Year 2004.

Conversions of Mobile Source Emission Reductions

Conversions of MSERCs to RTCs are allowed under Rule 2008 – Mobile Source Credits, and several programs under Regulation XVI – Mobile Source Offset Programs. In Compliance Year 2004, there were no new RTCs issued as a result of conversion of MSERCs. Further information on MSERCs generation is provided in Chapter 3.

Net Changes in RTC Allocations

The changes to RTC supplies described in the above sections resulted in a net decrease in RTC supply of 6.14 tons of NOx RTCs for Compliance Year 2004 and an increase of 0.88 tons for Compliance Years 2005 and 2006. Pursuant to the recent adopted allocation reduction provisions under Rule 2002, the increases were reduced each year starting from Compliance Year 2007 (see Table 2-1). For Compliance Years 2011 and beyond, the net increase of NOx RTCs was 0.68 ton per year. For SOx RTCs, the net decrease for Compliance

Year 2004 was 0.10 ton. These changes are relatively small when compared to the total supply of RTCs (12,477 tons of NOx RTCs and 4,292 tons of SOx RTC for Compliance Year 2004). Tables 2-1 and 2-2 summarize the changes in NOx and SOx RTC supplies, respectively, that occurred in Compliance Year 2004 due to changes allowed under Rule 2002.

Table 2-1
Changes in supply of NOx RTCs during Compliance Year 2004 (tons/year)

| Source | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 and on |
|-----------------------|-------|------|------|------|------|------|------|-------------|
| Universe changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reformulated Gasoline | -7.02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Activity corrections | 0.88 | 0.88 | 0.88 | 0.77 | 0.75 | 0.73 | 0.70 | 0.68 |
| Net change | -6.14 | 0.88 | 0.88 | 0.77 | 0.75 | 0.73 | 0.70 | 0.68 |

Table 2-2
Changes in total supply of SOx RTCs during Compliance Year 2004 (tons/year)

| Source | 2004 | 2005 and on |
|-----------------------|-------|-------------|
| Universe changes | 0 | 0 |
| Reformulated Gasoline | -0.10 | 0 |
| Activity corrections | 0 | 0 |
| Net change | -0.10 | 0 |

Figures 2-1 and 2-2, respectively, illustrate the total NOx and SOx RTC supplies at the end of Compliance Year 2004.

Figure 2-1
NOx RTC Supply

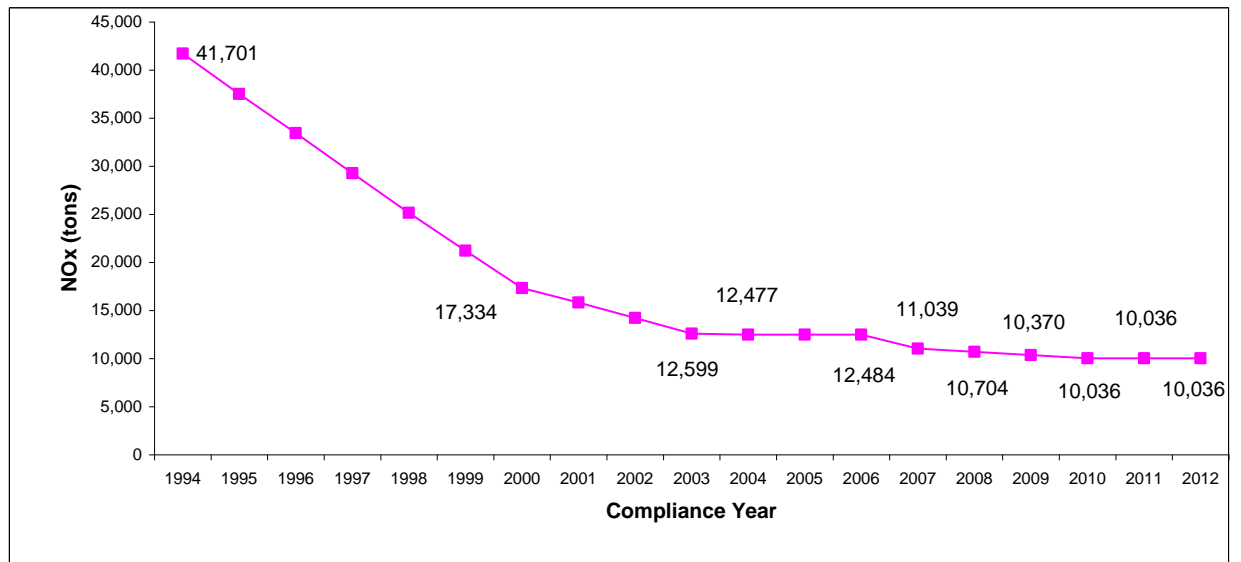
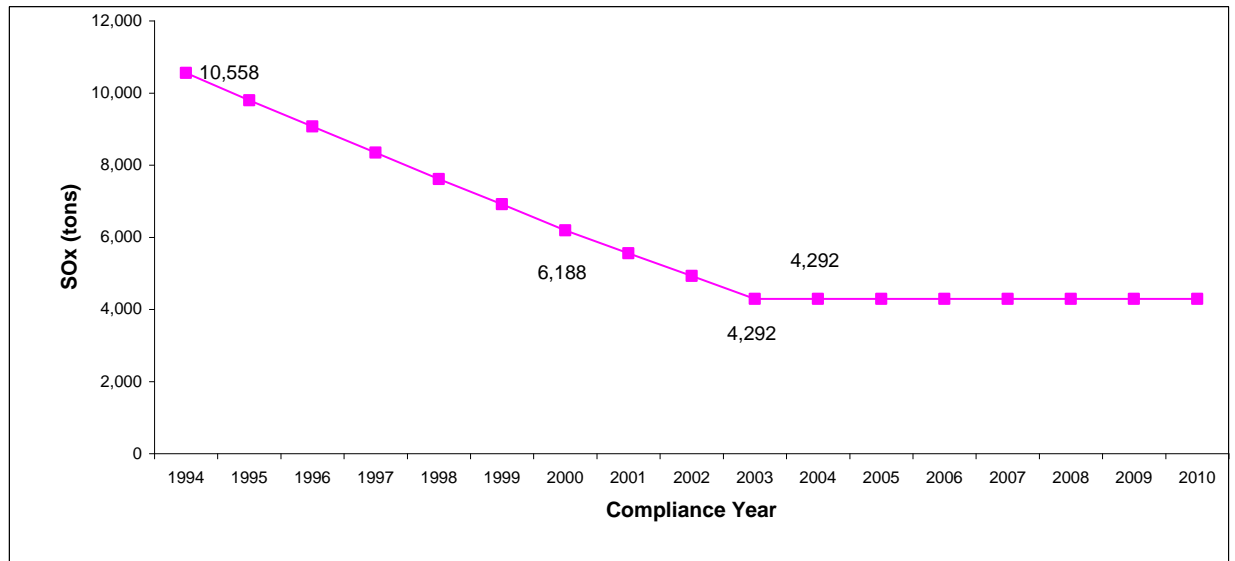


Figure 2-2
SOx RTC Supply



RTC Trading Activity

District rules require buyers and sellers to jointly file a trade registration within five business days of reaching an agreement to trade RTCs. The quantity and values of the RTCs traded are decided between buyers and sellers. In Compliance Year 2003, RTC Trading program was enhanced to include data from trades that involved continuous streams of RTCs that extend infinitely forward in time (infinite-year block trades). At the same time, the trade registration form was upgraded to support multiple year transactions in two different ways. The first is to report a block of finite years of RTCs with start and end year that are being traded at a price of dollars per pound per year. The other is to report an infinite-year block of RTCs with a starting year and extend to "all years after". In this type of transaction, the price reported is in terms of dollars per pound of RTCs. Again, the buyers and sellers are free to choose the start and end year of the block trades, the quantity, and the price for the transactions. So, trades can involve any distinct years of credits or an infinite stream of credits with any start year.

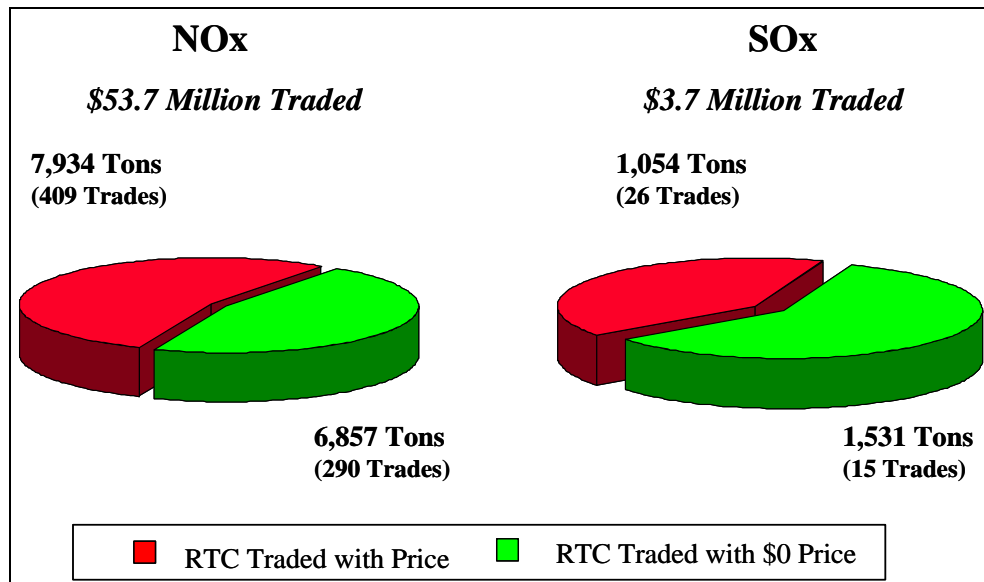
Traditionally, streams of infinite-year RTCs were traded as blocks starting from Compliance Year 2011 and forward with prices set at a fixed price per pound (instead of price per pound per year). However, in Calendar Year 2005, infinite-year block trades were reported with blocks starting from years different than Compliance Year 2011. These types of trades are discussed in more detail later in this chapter. Similar to Compliance Year 2003's annual report, unless otherwise stated, RTC trade-related data include infinite-year block trades, whereas, RTC trade-related data reported in RECLAIM audit reports prior to Compliance Year 2003 did not include these infinite-year block trades.

Before Calendar Year 2005, RECLAIM market participants traditionally included RECLAIM facilities, brokers, commodity traders and private investors. Brokers facilitate RTC trade by matching buyers and sellers but normally do not actually

purchase and own the credits. On the other hand, commodity traders and private investors are parties that actually invest in and own RTCs, and seek profit by trading credits. During Calendar Year 2005, mutual funds started to trade RTCs in addition to these traditional RTC traders. To-date, there have been four mutual funds, which are under one fund manager, that have participated in RTC trades

The RTC market continued to be active in Calendar Year 2005. There were 740 approved trades totaling 17,376 tons of NOx and SOx RTCs during Calendar Year 2005. These trades included both RTCs traded with prices and transfers with \$0 price. Since the inception of the RECLAIM program in 1994, a total of 371,859 tons of NOx RTCs and 131,099 tons of SOx RTCs were traded. Of these RTC's, those traded with price include 105,570 tons of NOx RTCs and 29,596 tons of SOx RTCs with a total value of \$780 million (\$698 million for NOx and \$82 million for SOx RTCs). Figure 2-3 summarizes trading activity in Calendar Year 2005 by pollutant.

Figure 2-3
Calendar Year 2005 Trading Activity



In Calendar Year 2005, 435 trades (409 of NOx and 26 of SOx) totaling 7,934 tons of NOx and 1,054 tons of SOx occurred with prices. These trades included current and future year RTCs. The total value of the RTCs traded with prices in Calendar Year 2005 was over \$57 million. Most of these trades with prices were conducted through brokers in 2005.

In addition to trades with prices, trades with \$0 price generally occur when a seller transfers RTCs to a broker, when there is a transfer between brokers, between facilities under common ownership, or between facilities that have gone through change of ownership. In 2005, there were also trades with \$0 price where a seller delivered RTCs to the buyer to make up for previous voided transactions. In addition to traditional trades of RTCs for price, different variation of swaps of RTCs occurred between facilities and brokers. There were swaps of current year NOx RTCs for future year NOx RTCs and swaps of RTCs from different cycles. RTCs were also swapped for ERCs of other pollutants or for

SOx Allowances under the USEPA Acid Rain Program. There were also swaps that involved a combination of RTCs and cash payment. Facilities swapping RTCs were required to report the equivalent price of RTCs under individual trades. Therefore, the price analysis includes all values of RTCs that were swapped. Besides the traditional trading and swapping activities, there were trades involving options to buy or sell RTCs. In those transactions, one party paid a premium fee for the right to purchase or sell the RTCs owned by the other party at a pre-determined price within a certain period of time. Prices for options are not included since they are not paid for the actual RTCs but just for the right to purchase or sell the RTCs at a future date. In fact, such rights may not be actually exercised. Figures 2-4 and 2-5 present trade volumes in tons (with and without prices) and total values of NOx and SOx RTCs traded, respectively, since the inception of RECLAIM. Again, these figures include data from infinite-year block trades, whereas data in reports prior to Compliance Year 2003 did not include these trades.

Figure 2-4
Total Quantity of NOx RTCs Traded

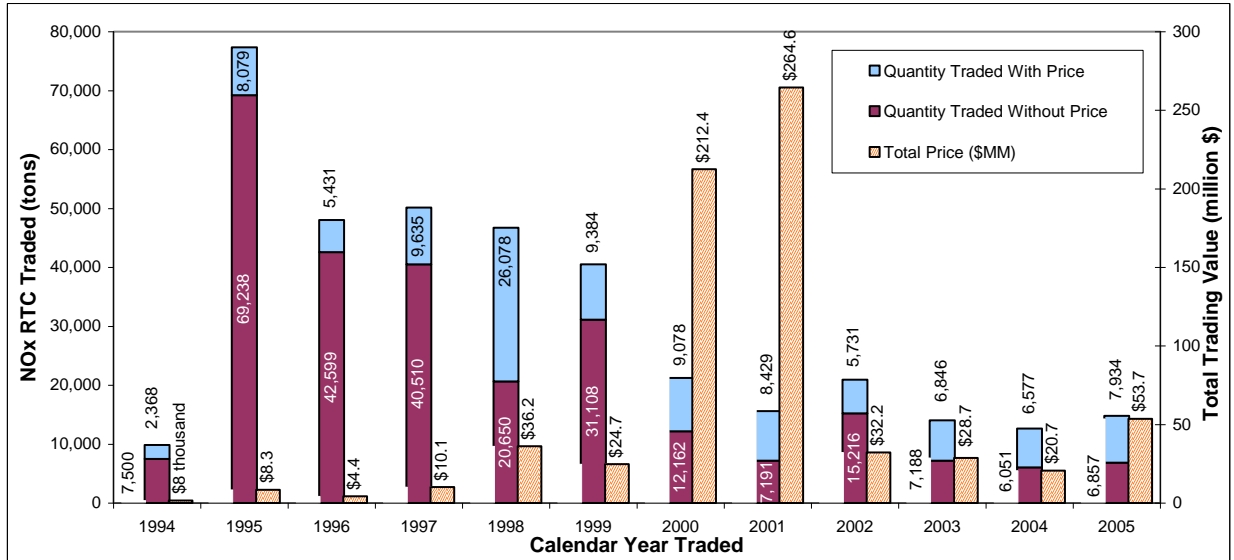
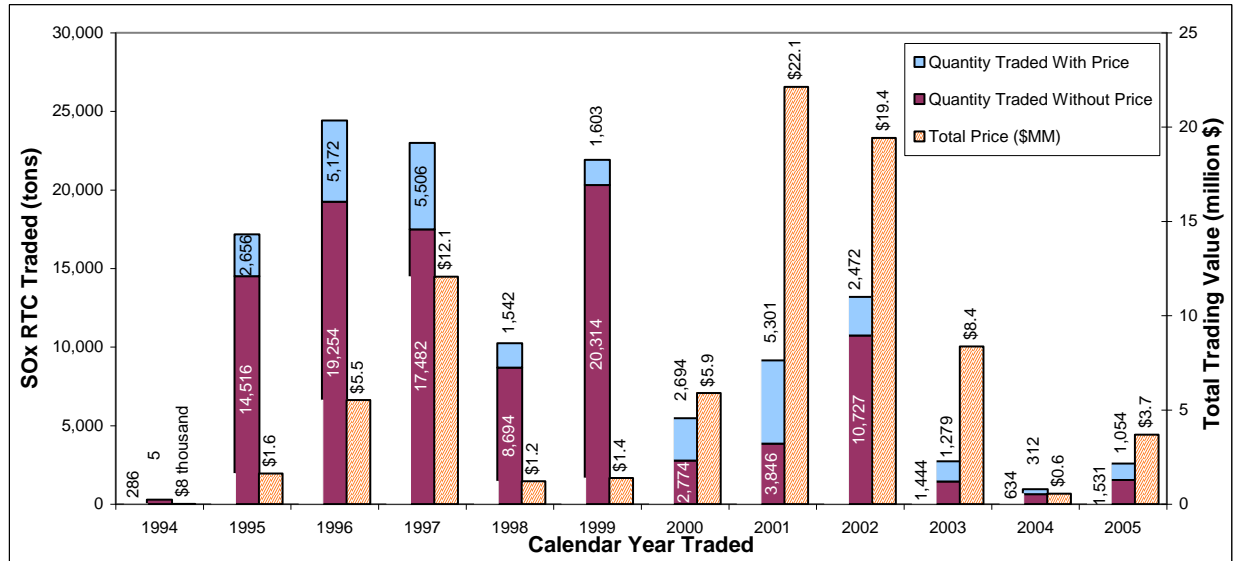


Figure 2-5
Total Quantity of SOx RTCs Traded



Comparison of Calendar Year 2005 Trading Activity to Previous Years

Overall trading activity in terms of numbers of trades for Calendar Year 2005 was slightly lower when compared to that in Calendar Year 2004. A total of 740 trades were registered with AQMD in Calendar Year 2005 compared to 772 in Calendar Year 2004. In terms of total quantity traded, 17,376 tons of NOx and SOx RTCs were traded in Calendar Year 2005 versus 13,574 tons in Calendar Year 2004. The total value of RTCs traded was \$57.4 million which was more than double the \$21.3 million transacted in Calendar Year 2004. This is a result of relatively higher costs for NOx RTC in Calendar Year 2005 when compared to 2004.

In 2005, there were a total of 7,934 tons of NOx RTCs traded with prices and a total value of \$53.7 million in value. This volume was 21 percent higher than the total volume of NOx RTCs traded with prices in 2004. The total value traded was more than double that traded in 2004. This is a result of higher prices for future NOx RTCs that are valid for Compliance Years 2006 and after (see Figure 2-6). However, the annual average prices for NOx RTCs valid for Compliance Year 2005 and earlier were lower than the annual average prices during Calendar Year 2004.

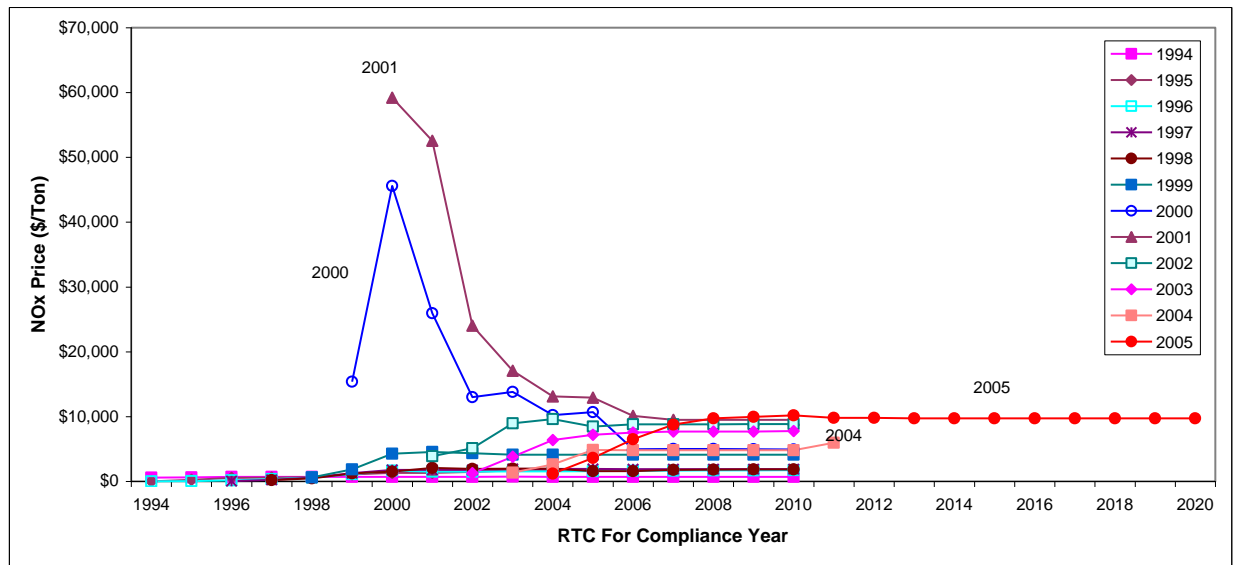
Prior to Calendar Year 2005, almost all trades of individual year RTCs were for Compliance Years 2010 and prior. RTCs valid for Compliance Years beyond 2010 were mostly traded as infinite-year blocks. In Calendar Year 2004, NOx trades deviating from this norm started occurring. NOx RTCs for individual years between 2011 and 2020 were reported. Infinite-year block trades were also reported with the infinite-year block starting from 2012 or later years instead of the traditional starting year of 2011. On the other hand, SOx RTC trades did not deviate from the traditional trend of trading infinite-year block with 2011 as the starting compliance year.

Trading activity in the SOx market increased in Calendar Year 2005 after the low in Calendar Year 2004. In Calendar Year 2005, 2,585 tons of SOx RTCs with 1,054 tons traded with prices and a total value of \$3.7 million, whereas only \$0.6 million were traded in Calendar Year 2004. The volume of RTCs traded has returned to the level seen in 2003 (2,585 tons vs. 2,723 tons) even though the number of registered trades is still relatively low. In addition, trades of future compliance year SOx RTCs resumed in Calendar Year 2005.

RTC Prices

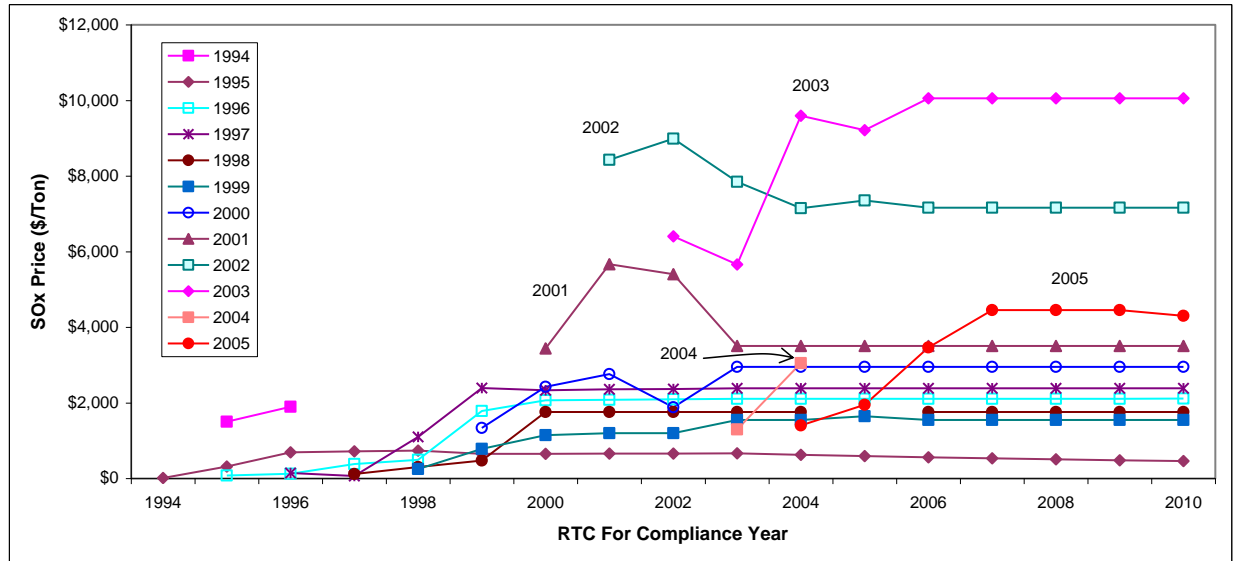
Average prices of NOx RTCs for individual compliance years followed similar trends in prior years except for Calendar Years 2000 and 2001. The average prices of NOx RTCs steadily rose from a low price for near term RTCs to a higher price for future credits. During 2005, NOx RTC average prices ranged from a low of \$1,200 per ton for the Compliance Year 2004 RTCs, to \$9,730 per ton for Compliance Year 2008 NOx RTCs, to \$10,193 per ton of NOx RTCs for Compliance Years 2010, and leveled off at around \$9,800 per ton for RTCs valid for Compliance Years 2010 and beyond. When compared to annual average prices in 2004, prices for NOx RTCs valid for Compliance Year 2005 and earlier were lower and prices for NOx RTCs valid for Compliance Year 2006 and after are higher. The average prices for future year RTCs in 2005 are the highest since the inception of RECLAIM. Figure 2-6 compares annual average prices of NOx RTCs in 2005 to those from other years since 1994.

Figure 2-6
Yearly Average Prices for NOx RTCs during Calendar Years 1994 through 2005



On the other hand, annual average prices for SOx RTCs were lower than those in 2002 and 2003 calendar years. During Calendar Year 2005, the average prices ranged from \$1,400 per ton for Compliance Year 2004 SOx RTCs to around \$4,450 per ton of SOx RTCs valid for Compliance Year 2007 and beyond. Calendar Year 2003 still had the highest average SOx RTCs prices as illustrated in Figure 2-7.

Figure 2-7
Yearly Average Prices for SOx RTCs



As shown in figures 2-6 and 2-7, all annual average prices for NOx and SOx RTCs during 2005 were below the \$15,000 per ton level set under Rule 2015.

Infinite-Year Block Trades

In 2003, the RTC Trading program was enhanced to include data from infinite-year block trades. These trades often involve transfer of operator for RECLAIM facilities in which one facility transfers all of its RTCs to the new operator at \$0 price. Where infinite-year block trades involve prices, the block of RTCs is transacted at a price per pound over the entire block of years specified. The block of RTCs traditionally started from Compliance Year 2011 and extended infinitely forward in time. Starting in Calendar Year 2004, a number of these infinite-year block trades had the infinite-year block with a different start year. In Calendar Year 2005, this type of infinite-year block trade increased in number. However, the majority of infinite-year block trades still had 2011 as the starting year. Table 2-3 lists quantities of RTCs involved in infinite-year block trades which carried a price for the RTCs versus the different start years.

Table 2-3
NOx RTCs Traded in Infinite Trades with Price and Different Start Year

| Start Year of Infinite RTCs Block | NOx RTCs Traded in 2004 (tons) | NOx RTCs Traded in 2005 (tons) |
|-----------------------------------|--------------------------------|--------------------------------|
| 2010 | 7.6 | 0 |
| 2011 | 547.8 | 420.8 |
| 2012 | 1.6 | 17.8 |
| 2013 | 0 | 8.3 |
| 2021 | 0 | 137.1 |

The following analysis on infinite-year block trades is made separately and is distinct from the price analysis on annual average prices presented earlier in this

chapter. Annual average prices are evaluated per pound per year of credits for a specific compliance year. Infinite-year block trades involve a stream of credits valid for all years starting from a certain year and therefore need to be evaluated in terms of price per pound instead of an average price of dollar per pound per year. In addition, all infinite-year block trades are included in the analysis without segregating among different start years. However, if an infinite-year block trade is registered with the infinite-year block starting with the current compliance year, the trade value of that transaction will be included both in the price analysis for individual year transaction as well as the infinite-year block trade analysis to avoid omitting any trade from the evaluation of the backstop price level. For example, if there was a trade registered in calendar year 2005 that transferred a block of 100 pounds of NO_x RTCs starting from Compliance Year 2005 and extending infinitely forward in time, these 100 pounds of NO_x RTCs would have been included in the Compliance Year 2005 price analysis at the selling price. In addition, the same block of 100 pounds of NO_x RTCs would also be included in the analysis for infinite-year block trade as an infinite-year block with 2006 as the starting year. As shown in Table 2-3 no such trade existed in Calendar Year 2005. However, for infinite-year block trades involving RTCs with a starting year other than the current year (e.g. 2010), the value and volume of this RTC transaction are only included in the analysis of infinite-year block trade data.

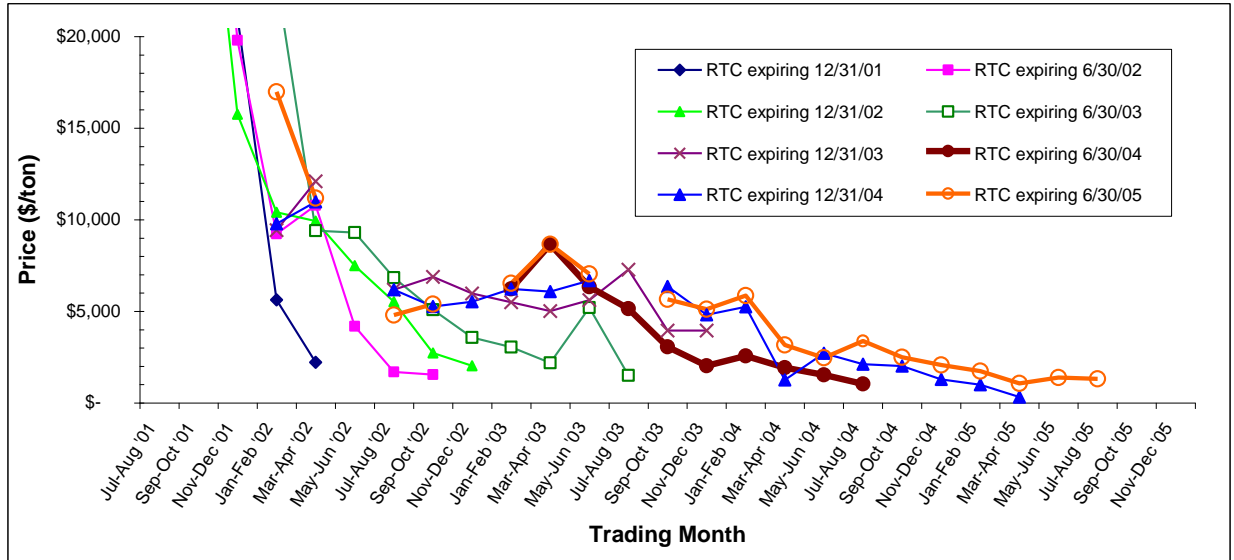
During Calendar Year 2005, there were a total of 1,592 tons of infinite-year NO_x and SO_x RTC blocks traded. Of these, 164 trades involved 1,257 tons of infinite-year NO_x RTC blocks. Among these trades, 79 trades were traded with prices totaling 584 tons and a value of \$6.2 million. Prices for these infinite-year blocks of NO_x RTCs ranged from \$4,909 to \$77,440 per ton with an average price of \$10,678 per ton. When compared to infinite-year NO_x RTC blocks traded in 2004 (\$6,794 per ton), the average price for NO_x infinite-year RTC blocks traded in 2005 increased significantly. There were 11 trades of infinite-year SO_x RTC blocks totaling 335 tons. All of these trades were for infinite-year SO_x RTC blocks starting from Compliance Year 2011. Of these trades, five were traded with prices, totaling 185 tons and a value of \$1.1 million. Prices of these infinite-year SO_x RTC blocks ranged from \$4,200 to \$8,500 per ton with an average price of \$6,084 per ton. No infinite-year SO_x RTC block was traded with price in Calendar Year 2004. For Calendar Year 2003, infinite-year SO_x RTC blocks were traded at an average price of \$6,376 per ton which is about the same as the average price in 2005.

Prices for NO_x RTCs near Expiration

RTC prices decrease as their expiration dates approach. This general pattern was followed each year except for Compliance Years 2000 and 2001. During that period, NO_x RTCs increased as the expiration dates approached because there was a shortage of NO_x RTCs. In Calendar Year 2005, prices for NO_x RTCs expiring within the same calendar year were decreasing as the expiration approached. RTCs started out high at the beginning of the compliance year and gradually declined over the course of the year. NO_x RTCs that expired in December 2004 and June 2005 were traded at prices less than \$1 per pound in the 60 day-period following their expiration date during which facilities are allowed to trade to reconcile their emissions. The bi-monthly average prices for these NO_x RTCs are shown in Figure 2-8. This graph shows that since 2001 the average prices for NO_x RTCs near expiration have followed a generally declining

trend which reflected that there was enough supply to meet the RTC demand during the final reconciliation period following the end of the compliance years.

Figure 2-8
Bi-Monthly Average Prices for NOx RTCs near Expiration



CHAPTER 3 EMISSION REDUCTIONS

Summary

Aggregate NOx and SOx emissions from RECLAIM facilities continued to be below allocations for Compliance Year 2004. SOx emissions continued to decline and were below allocations by 17 percent. Whereas, Compliance Year 2004 NOx emissions increased slightly by 0.1 percent from the Compliance Year 2003 level but were below allocations by approximately 20 percent.

In response to the energy crisis' effects on the RECLAIM NOx market, the AQMD Governing Board adopted rule amendments in May 2001 to stabilize RTC prices. The amendments included provisions curtailing RTC demand as well as increasing RTC supply. The Governing Board also adopted Rule 2020 – RECLAIM Reserve, which established the RECLAIM Air Quality Investment Program (AQIP), the Emissions Mitigation Fee Program, and the State Emission Reduction Credit Bank. These three programs were set up to provide eligible facilities with emission reduction credits. In Compliance Year 2004, no facility requested emission reductions from any of these three programs. No emissions associated with breakdowns were excluded from being accounted against facility allocations in Compliance Year 2004. Therefore, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Report.

Background

One major objective of the RECLAIM program audit is to assess whether RECLAIM is achieving its targeted emission reductions. The annual allocations given to RECLAIM facilities reflect the required emission reductions mirroring the reductions anticipated under command-and-control rules. In January 2005, the Board adopted further reductions to RECLAIM Allocations starting Compliance Year 2007 to implement BARCT. As such, RECLAIM is designed to achieve the same level of emissions reductions as would have been achieved in aggregate by implementing the subsumed rules and command-and-control measures as well as complying with state law, such as California Health and Safety Code §39616(e).

In 2000, power producing facilities increased their power generation in response to the California energy crisis. The corresponding increases in NOx emissions caused a sudden surge in NOx RTC prices that adversely impacted other RECLAIM participants and the overall objective of the program. To correct this problem, the Governing Board amended Regulation XX to bifurcate power producing facilities from the rest of the RECLAIM program participants to stabilize the RTC prices. Power producing facilities are still subject to the requirements of the RECLAIM Program, except that they cannot purchase additional RTCs to offset their emissions. Instead these facilities may participate, if needed, in the Emission Mitigation Fee Program which is in effect through the end of the 2004 compliance year. The Board also adopted Rule 2020 – RECLAIM Reserve, to provide a reserve of NOx emission reductions that can be used under the RECLAIM AQIP, Emission Mitigation Fee Program, or natural gas turbine power plant peaking sources.

Emissions Audit Process

AQMD has conducted annual audits on the data submitted by RECLAIM facilities for the past eleven compliance years to ensure the integrity and reliability of the data. The process begins when each facility submits a comprehensive Annual Permit Emissions Program (APEP) report within sixty days of the end of each compliance year. AQMD staff then reviews the APEP reports to assess the accuracy of reported emissions. This process includes field inspections to check the equipment, monitoring devices, and operational records. It also involves verification of emissions data reported during the course of the year (daily, monthly, quarterly, and annually).

These audits revealed that some facilities made errors in quantifying their emissions, such as arithmetic errors, use of inappropriate emission factors, or inappropriate use of missing data substitution. Consequently, the reported emissions in the APEP reports for those facilities were adjusted to correct the errors. Whenever AQMD staff found discrepancies, they were discussed with the facility operators. In cases where staff feels that the facility may have additional input, facilities were provided an opportunity to review the changes and to present additional data or arguments in support of the data in their APEP reports. This kind of rigorous audit process reinforces RECLAIM's emissions monitoring and reporting requirements and enhances the validity and reliability of the reported emissions data.

Emission Trends and Analysis

RECLAIM achieves its emission reduction goals on an aggregate basis by ensuring that aggregate annual emissions are below allocations. Table 3-1 summarizes NO_x emissions from RECLAIM facilities since program inception. Emissions reported by facilities either under the APEP report or the Quarterly Certification of Emissions Report (QCER) were used when emissions data from completed audits were not available.

Table 3-1
Annual NOx Emissions¹ for Compliance Years 1994 through 2004

| | Annual NOx Emissions (tons) | % Change from 1994 | Total NOx RTCs ² (tons) | NOx RTCs Left Over (tons) | NOx RTCs Left Over (%) |
|------|-----------------------------|--------------------|------------------------------------|---------------------------|------------------------|
| 1994 | 25,314 | 0.0% | 40,127 | 14,813 | 37% |
| 1995 | 25,764 | 1.8% | 36,031 | 10,267 | 28% |
| 1996 | 24,796 | -2.0% | 32,017 | 7,221 | 23% |
| 1997 | 21,786 | -13.9% | 27,919 | 6,133 | 22% |
| 1998 | 20,982 | -17.1% | 24,678 | 3,696 | 15% |
| 1999 | 20,775 | -17.9% | 21,013 | 238 | 1.1% |
| 2000 | 20,491 | -19.1% | 17,197 | -3,294 | -19% |
| 2001 | 15,721 | -37.9% | 15,693 | -28 | -0.18% |
| 2002 | 10,943 | -56.8% | 14,044 | 3,101 | 22% |
| 2003 | 9,942 | -60.7% | 12,484 | 2,542 | 20% |
| 2004 | 9,953 | -60.7% | 12,477 | 2,524 | 20% |

Table 3-1 shows that, programmatically, there were excess NOx RTCs left over after accounting for NOx emissions for every compliance year since 1994, except for Compliance Years 2000 and 2001. Therefore, except for these two years, RECLAIM facilities have met the emission goal under RECLAIM. During Compliance Year 2000, power producing facilities operated at a production level significantly higher than their past operation levels due to California's energy crisis. The high production level continued into Compliance Year 2001. The high production resulted in elevated emissions from the power producing sector. Table 3-2 illustrates the impact of NOx emissions from the power producing facilities on the overall RECLAIM NOx allocations in Compliance Year 2000. Table 3-3 categorizes Compliance Year 2004 emissions in the same fashion as Table 3-2 to illustrate the emission trend between 2000 and 2004. Although power producing facilities were initially allocated 1,705 tons of NOx RTCs for Compliance Year 2004 based on their historical operations, these facilities only emitted 541 tons of reported NOx in Compliance Year 2004. This level was approximately 6,200 tons (92%) below emissions from power producing facilities in Compliance Year 2000. The decrease in emission was due to the installation of NOx control equipment at power producing facilities and a reduction in electricity generation. There was also appreciable reduction in emissions from non-power producing facilities even though to a lesser extent. Non-power producing facilities emitted 9,412 tons of NOx in Compliance Year 2004 which is almost 4,300 tons (31%) less than their emissions in Compliance Year 2000. In aggregate, annual NOx emissions in Compliance Year 2004 totaled 9,953 tons from RECLAIM facilities. This is more than 51% less than the 20,491 tons of

¹ The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31 and Cycle 2 compliance years are from July 1 through June 30.

² Total RTCs = Allocations + Converted ERCs

NOx emissions in Compliance Year 2000. Thus, both power producing and non-power producing sectors contributed to the decreases in emissions between Compliance Years 2000 and 2004. As a result, Compliance Year 2004 NOx emissions are again achieving aggregate RECLAIM emission reduction goals and are below the total allocations by 20 percent.

**Table 3-2
Impact of NOx Emissions from Power Producing Facilities on the Overall NOx Allocations for Compliance Year 2000**

| | Compliance Year 2000 | | | | |
|--------------------------------|---------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------|
| | Non-Power Producing Facilities (a) | | Power Producing Facilities (b) | | All Facilities (a) + (b) |
| | RTCs Held | Initial Allocations | RTCs Held | Initial Allocations | |
| Allocations (tons) | 12,345 | 14,895 | 4,852 | 2,302 | 17,197 |
| Emissions (tons) | 13,703 | | 6,788 | | 20,491 |
| Difference [tons] (Exceedance) | (1,358) | 1192 | (1,936) | (4,486) | (3,294) |

**Table 3-3
NOx Emissions for Compliance Year 2004**

| | Compliance Year 2004 | | | | |
|--------------------------------|---------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------|
| | Non-Power Producing Facilities (a) | | Power Producing Facilities (b) | | All Facilities (a) + (b) |
| | RTCs Held | Initial Allocations | RTCs Held | Initial Allocations | |
| Allocations (tons) | 10,359 | 10,772 | 2,118 | 1,705 | 12,477 |
| Emissions (tons) | 9,412 | | 541 | | 9,953 |
| Difference [tons] (Exceedance) | 947 | 1,360 | 1,577 | 1,164 | 2,524 |

As shown in Table 3-4, RECLAIM facilities have not exceeded their SOx Allocations on an aggregate basis since program inception. This indicates that RECLAIM met its programmatic SOx emission reduction goals and demonstrated equivalency in SOx emission reduction compared to the traditional command-and-control measures. Table 3-4 shows that SOx emissions in Compliance Year 2004 continued its declining trend and decreased approximately 51 percent from 7,232 tons in 1994 to 3,580 tons in 2004. The reductions in SOx emissions resulted mainly from emission reductions projects implemented at the area's

refineries. Typical projects included removal of sulfur compounds form feed streams and refinery fuel gas, and the use of catalysts to reduce SOx emissions. Figures 3-1 and 3-2 illustrate the comparison of emissions and the RTC supply for NOx and SOx, respectively.

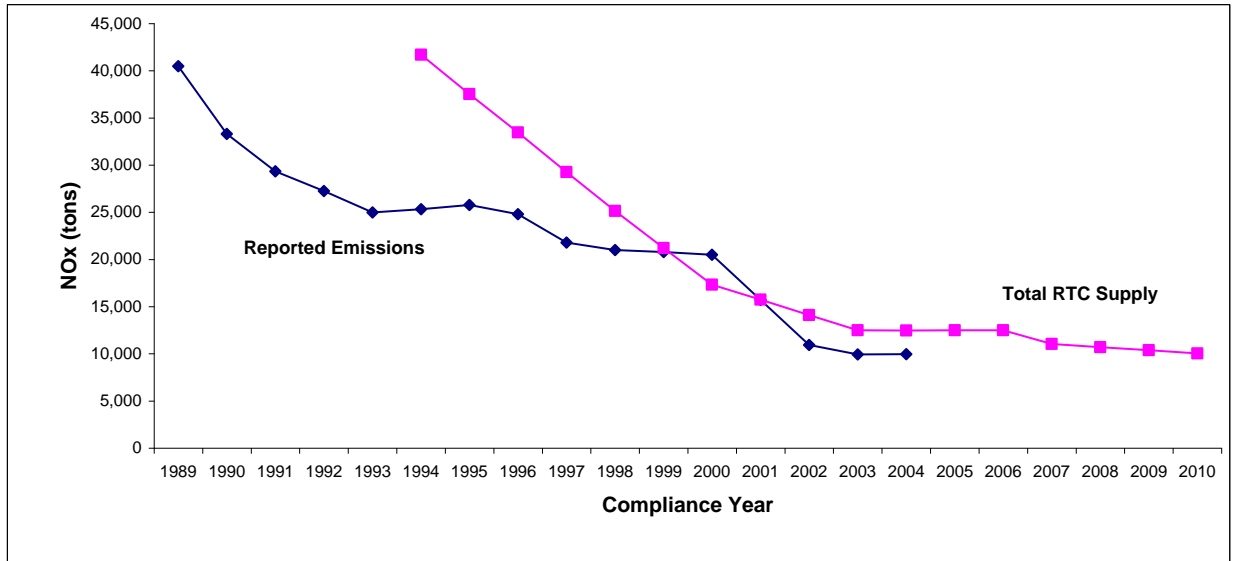
Table 3-4
Annual SOx Emissions for Compliance Years 1994 through 2004

| | Annual SOx Emissions ³ (tons) | % Change from 1994 | Total SOx RTCs ⁴ (tons) | SOx RTCs Left Over (tons) | SOx RTCs Left Over (%) |
|------|---|-----------------------|--|---------------------------------|------------------------------|
| 1994 | 7,232 | 0.0% | 10,365 | 3,133 | 30% |
| 1995 | 8,064 | +11.5% | 9,612 | 1,548 | 16% |
| 1996 | 6,484 | -10.3% | 8,894 | 2,410 | 27% |
| 1997 | 6,464 | -10.6% | 8,169 | 1,705 | 21% |
| 1998 | 6,793 | -6.1% | 7,577 | 784 | 10% |
| 1999 | 6,378 | -11.8% | 6,911 | 533 | 8% |
| 2000 | 6,009 | -16.9% | 6,185 | 176 | 3% |
| 2001 | 5,003 | -30.8% | 5,557 | 554 | 10% |
| 2002 | 4,374 | -39.5% | 4,924 | 550 | 11% |
| 2003 | 3,855 | -46.7% | 4,292 | 437 | 10% |
| 2004 | 3,580 | -50.5% | 4,292 | 712 | 17% |

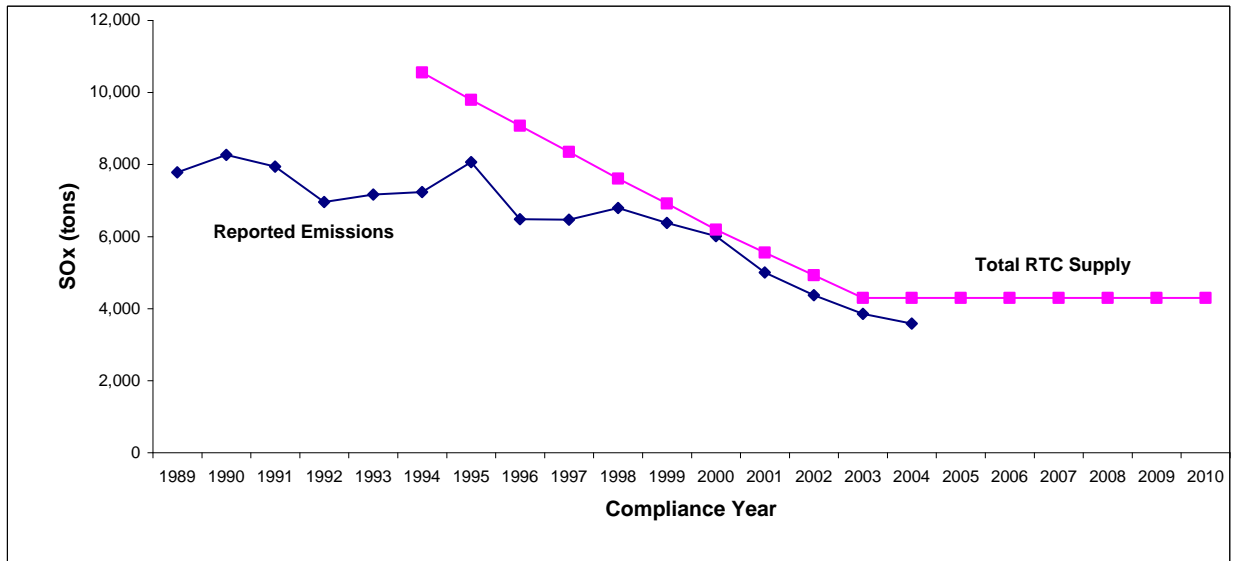
³ The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31, and Cycle 2 compliance years are from July 1 through June 30.

⁴ Total RTCs = Allocations + Converted ERCs

**Figure 3-1
NOx Emissions and Available RTCs**



**Figure 3-2
SOx Emissions and Available RTCs**



Comparison to Command-and-Control Rules

As mentioned previously, RECLAIM subsumed a number of command-and-control rules⁵, and sought to achieve equivalent reductions as these subsumed rules. RECLAIM facilities are exempt from the requirements of these rules as they are applicable to NOx or SOx emissions. During Compliance Year 2004, the only RECLAIM subsumed rule to be amended was Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines in June 2005. The rule was amended

⁵ See Tables 1 and 2 of Rule 2001.

to comply with Senate Bill (SB) 700, which eliminated the exemption from the permit system of agricultural operations and required BARCT on agricultural engines. However, agricultural operations are exempt from RECLAIM unless such facilities opt to enter into RECLAIM. As of the end of Compliance Year 2004, no agricultural facility is under the RECLAIM program. Therefore, the amendment to Rule 1110.2 has no impact on RECLAIM facilities.

Table 3-5 lists three other rules that were amended during Compliance Year 2004 and contained NOx or SOx emissions limits that may affect equipment found at RECLAIM and non-RECLAIM facilities. Rule 1118 – Emissions from Refinery Flares was amended to reduce emissions from refinery flaring events. Refinery flares are programmatically excluded from the RECLAIM program. Although, the Rule 1118 amendment did not affect RECLAIM equipment, it results in additional emission reductions at RECLAIM facilities. Rule 1146.2 - Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers sets NOx emission standards for large water heaters and small boilers. Rule 1146.2 was amended to extend compliance dates for the applicable source but did not change any emission standards. This rule specifically exempts RECLAIM sources from its requirements. Emissions from these sources at RECLAIM facilities are required to be reported and reconciled with RTCs. Therefore, they are subject to the overall reduction goals of RECLAIM program. Rule 1470 - Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines, was adopted in April 2004 and later amended in March 2005. This rule implements the Airborne Toxic Control Measure (ATCM) for compression ignition engines. The main goal of this rule is to reduce airborne toxic, mainly diesel particulate matters, from the subject equipment. Unlike Rule 1146.2, this rule does not provide any exemption for sources operated by RECLAIM facilities. Therefore, RECLAIM sources are also required to comply with the applicable provisions of Rule 1470.

**Table 3-5
Rules Controlling NOx and SOx Emissions That Were Amended in Compliance Year 2004**

| Rule Number | Description | Date of Adoption or Amendment |
|-------------|--|-------------------------------|
| 1110.2 | Emissions from Gaseous- and Liquid-fueled Engines | June 2005 |
| 1118 | Emissions from Refinery Flares | November 2005 |
| 1146.2 | Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers | January 2005 |
| 1470 | Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines | April 2004 and March 2005 |

Program Amendments

Administrative amendments to RECLAIM rules were adopted in May 2005 to clarify rule applicability related to ship emissions, to provide for an alternative

RTCs holding period for offsetting emission increases subject to RECLAIM New Source Review, to clarify the RTC holding requirement in cases of change in operator of a RECLAIM facility, and to include a previous omission from Rule 2007 – Trading Requirements. The amended rules included Rule 2001, Rule 2005 - New Source Review for RECLAIM, Rule 2007, Rule 2011 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SO_x) Emissions, and Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO_x) Emissions.

Ship Emissions

Under New Source Review, facilities are required to offset all emission increases related to a new or modified source. For non-RECLAIM facilities, Regulation XIII – New Source Review requires emission increases from all non-propulsion ship emissions within Coastal Waters under District jurisdiction and all emissions from ships during the loading and unloading of cargo and while at berth to be offset. On the other hand, RECLAIM rules lacked explicit clauses to address ship emissions. To clarify the requirement and to maintain equity between RECLAIM and Non-RECLAIM facilities, an explicit requirement was added to Rule 2005 to require RECLAIM facilities, which are subject to RECLAIM New Source Review, to also provide sufficient RTCs to offset for non-propulsion emissions and all emissions during loading and unloading of cargo and while at berth. As a result of RECLAIM facilities having to report and offset these emissions, provisions were added to the protocols under Rules 2011 and 2012 to specify procedures for monitoring, recordkeeping, quantifying, and reporting these emissions. Lastly, Rule 2001 was amended to clarify that ship emissions are not included when determining the applicability thresholds for a facility under RECLAIM.

Alternative Method of Holding Emission Offset

Rule 2005 was amended to allow an alternative method of holding emission offsets that will increase availability of credits in the RECLAIM market. Prior to this amendment, Rule 2005 required a facility subject to New Source Review to hold RTCs equal to the emission increases at the maximum potential level for the duration of the compliance year. These RTCs could only be transferred from the allocation account during the reconciliation period following the end of the compliance year for which the RTCs were held. RECLAIM facilities requested that they be allowed to transfer from their allocation accounts the amount of RTCs in excess of actual emissions for that quarter after the end of a quarter. AQMD staff worked with USEPA to draft the May 2005 amendments that would allow a facility to transfer RTCs from its allocation account on a quarterly basis instead of an annual basis. Pursuant to the amended rule, a facility may accept quarterly emission limits and be allowed to transfer out RTCs in the amount equal to the difference between the quarterly emissions limits and the actual emissions for that quarter. The amended rule also included provisions that would limit the facility to transfer RTCs from its allocation account if it violated the quarterly emission limits in any quarter. A facility would not be permitted to transfer out any RTCs for the compliance year if it was found to be in violation of the quarterly emission limits. In addition, if a facility experienced three exceedances in any five year period, the facility would be permanently barred from this quarterly option.

Emission Offset Requirement at time of Change of Operator

In cases of change of operator, Rule 2005 required the new operator of a RECLAIM facility to hold sufficient RTCs equivalent to the annual allocation initially issued by the AQMD to the original Facility Permit holder for the compliance year when the change occurred. In the past, there were cases wherein the facility had significantly reduced its emissions through either process changes or emission reduction projects. The new owner was required to seek additional RTCs before the facility could be issued a new permit even though there was no need for the RTCs. The May 2005 rule amendments remedied this issue by allowing the new Facility Permit holder to hold RTCs equal to either (1) the annual allocation initially issued to the original Facility Permit holder for the compliance year when the change occurred; or (2) the sum of the potential to emit from all the sources at the facility.

Finally, Rule 2007 was also amended in May 2005 to correct an inadvertent omission. The amendment allowed a power producing facility to transfer credits to facilities under common ownership.

Stakeholder Task Force Meetings

When the Board adopted amendments to the RECLAIM Program in January 2005, the Board directed staff to assemble a stakeholder task force to examine the future RECLAIM trading structure. The AQMD held task force meetings in September and November. The task force was asked to consider and develop recommendations regarding emission reduction objectives, program efficiency, market viability, and business stability. The task force included market participants, agency representatives, the environmental community, and academia. AQMD will report the task force recommendations to the Governing Board no later than January 1, 2007 and prior to the adoption of the 2007 AQMP.

Rule 2015 – Backstop Provisions

Rule 2015 requires that the AQMD review the program and implement necessary measures to amend the program whenever aggregate emissions exceed the allocations by five percent or more, or whenever the annual average price of RTCs exceed \$15,000 per ton. As shown in Chapter 2, annual average prices for NO_x and SO_x RTCs were below the \$15,000 per ton level. In addition, Compliance Year 2004 aggregate NO_x and SO_x emissions were both below aggregate allocations as shown in Figures 3-1 and 3-2.

Breakdowns

Pursuant to Rule 2004(i) – Breakdown Provisions, a qualifying facility may exclude emissions, which were in excess of normal emission levels, from being counted towards compliance with the facility's allocations. The facility must submit supporting data to show, in addition to other requirements, that the breakdown was caused beyond the facility's reasonable control and also the facility has taken steps to minimize emissions resulting from the breakdown and mitigated the excess emissions to the maximum extent feasible. USEPA expressed concerns that the provisions under Rule 2004(i) would result in unmitigated emissions and wanted a methodology to prevent such an occurrence.

Rule 2015 was amended in June 2004 to monitor the amount of excess breakdown emissions that have been allowed to be excluded from facility allocations and to assure that these emissions are programmatically offset. The newly added provisions of Rule 2015(d)(3) requires the AQMD to monitor and report in the annual audit report the amount of excess emissions approved to be excluded from allocation compliance, and compare the total quantity of NOx and SOx emissions excluded to the amount of unused RTCs for the entire RECLAIM program during the compliance year. The comparison is to show that the excluded emissions were programmatically offset by unused RTCs within the RECLAIM program. However, if the breakdown emissions exceed the unused RTCs, any excess breakdown emissions remaining must be offset by either: (1) deducting the RTC holdings for the subsequent compliance year from facilities that had unmitigated breakdown emissions, proportional to each facility's contribution to the total amount of unmitigated breakdown emissions; and/or (2) with RTCs obtained by the Executive Officer for the compliance year following the completion of the annual audit report in an amount sufficient to offset the unmitigated breakdown emissions.

As listed in Table 3-6, a review of APEP reports for the 2004 compliance year found that no facilities requested to exclude their breakdown emissions from being counted against their allocations. In addition, for Compliance Year 2004, there were 2,524 tons and 712 tons of unused NOx and SOx RTCs, respectively, within the program. Therefore, no additional offset is required pursuant to Rule 2015(d)(3).

**Table 3-6
Breakdown Emission Comparison for Compliance Year 2004**

| Emittant | Unmitigated Breakdown Emissions ⁶ (tons) | Compliance Year 2004 Unused RTCs ⁷ (tons) |
|----------|---|--|
| NOx | 0 | 2,524 |
| SOx | 0 | 712 |

Rule 2020 – RECLAIM Reserve

In May 2001, the Board adopted Rule 2020 to establish a reserve of emission reduction for use in the RECLAIM AQIP, the Emission Mitigation Fee Program, and the State Emission Reduction Credit Bank. These programs are available only through the end of Compliance Year 2004.

The RECLAIM AQIP is set up for Structural Buyers of RTCs who may obtain available emission reductions from the program by demonstrating their eligibility and paying a participation fee of \$7.50 per pound of NOx emissions. Structural Buyers are RECLAIM facilities that are either new facilities built after October 1993 or facilities that emitted 6 tons or less of NOx in the 1999 compliance year, and meet certain conditions contained under Rule 2000 (c)(74). No requests for

⁶ Data for unmitigated breakdown emissions (not counted against Allocation) as reported under Annual Permit Emissions Program (APEP) reports.

⁷ Unused RTCs = RTC supply – Reported Emissions.

emission reductions were received under the RECLAIM AQIP in Compliance Year 2004.

The Emission Mitigation Fee Program is available only to power producing facilities that meet the requirements under Rule 2004(o) – Emission Mitigation Fee Program for Power Producing Facilities. A power producing facility may obtain emission reductions from the Emission Mitigation Fee Program provided it has not sold, since January 11, 2001, any NOx RTCs valid for the compliance year that it is requesting emission reductions. An equivalent amount of NOx RTCs is deducted from the requesting facility’s future year allocations (up to two years from the compliance year requested) to protect the environment. When emission reductions are available under the Emission Mitigation Fee Program, the reductions are distributed to the participants on a prorated basis to replace the future allocations that were deducted up-front. As Table 3-3 indicates, power producing facilities as a group held significantly higher amount of RTCs than their total emissions. No power producing facility requested for emission reductions from the Emission Mitigation Fee Program in Compliance Year 2004.

Credits for the RECLAIM Reserve can be generated based on protocols under the pilot credit generation rules listed in Table 3-7.

**Table 3-7
Pilot Credit Generation Rules**

| Rule Description | Approval Status (Approval Date) |
|---|--|
| Rule 1612.1 – Mobile Source Credit Generation Pilot Program | Approved (2/7/2002) |
| Rule 1631 - Pilot Credit Generation Program for Marine Vessels | Original Rule Approved (2/7/2002) 10/2002 Amendments (11/24/2003) |
| Rule 1632 - Pilot Credit Generation Program for Hotelling Operations | Approved (2/7/2002) |
| Rule 1633 – Pilot Credit Generation Program for Truck/Trailer Refrigeration Units | Approved (2/7/2002) |
| Rule 1634 – Pilot Credit Generation Program for Truck Stops | Approved (11/24/03) |
| Rule 2507 – Pilot Credit Generation Program for Agricultural Pumps | Approved (2/7/2002) |

The deadline for submitting emission reduction proposals under the Emission Mitigation Fee Program and the RECLAIM AQIP was January 1, 2004. Therefore, no new project was approved since Calendar Year 2004. Projects that were initiated in past years continued to generate credits under Rules 1612.1, 1631, and 2507. Credits generated by these projects are to be deposited into the RECLAIM Reserve after records have been audited by AQMD staff. Deposited credits are then available for use by participants of the Emission Fee Program and the RECLAIM AQIP.

Table 3-8 shows reported NOx reductions of 445.2 tons in 2004 and 200.5 tons in the first two quarters of 2005 from the re-powering of marine vessels under Rule 1631. It must be noted that all of the emissions reductions shown in these tables are based on reported activity levels. These projects have not been fully audited, and no credits have been deposited in the RECLAIM Reserve nor used by RECLAIM facilities. Accounting for the rule required ten percent retirement, a total of 581 tons of credits were reported to have been generated under Rule 1631.

**Table 3-8
Emission Reductions Achieved Pursuant to Rule 1631**

| Calendar Year | Number of Marine Vessels Generating Credits | Reported NOx Reductions ⁸ (tons) | 10% Retirement ⁹ (tons) | NOx MSERCs (tons) |
|--------------------|---|---|------------------------------------|-------------------|
| 2004 | 35 | 445.2 | 44.5 | 400.7 |
| 2005 ¹⁰ | 35 | 200.5 | 20.1 | 180.4 |
| | Total | 645.7 | 64.6 | 581.1 |

Table 3-9 shows that a total of 36.8 tons of emission reductions were generated, after accounting for the ten percent retirement, between Calendar Year 2003 and the first three quarters of 2005 from the electrification of agricultural pumps under Rule 2507. The reports have been audited by AQMD staff. However, no credits have been deposited in the RECLAIM Reserve.

**Table 3-9
Emission Reductions Achieved Pursuant to Rule 2507**

| Calendar Year | Number of Agricultural Pumps Generating Credits | NOx Reductions ¹¹ (tons) | 10% Retirement (tons) ⁹ | NOx ASCs (tons) |
|--------------------|---|-------------------------------------|------------------------------------|-----------------|
| 2003 | 20 | 2.6 ¹² | 0.26 | 2.3 |
| 2004 | 34 | 22.9 | 2.29 | 20.6 |
| 2005 ¹³ | 30 | 15.4 | 1.54 | 13.9 |
| | Total | 40.9 | 4.09 | 36.8 |

⁸ Data provided by Technology Advancement Office. Records submitted to support these emission reductions are being audited. No credits have been deposited into the RECLAIM Reserve. Numbers are subject to change upon completion of audit.

⁹ Ten percent of all credits generated are retired for the benefit of the environment pursuant to rule requirements.

¹⁰ Includes only the first two quarters of Calendar Year 2005.

¹¹ Records submitted to support these emission reductions have been audited. Numbers are subject to change, pending review of additional records. No credits have been deposited into the RECLAIM Reserve.

¹² Revised calculations, including data submitted after preparation of Compliance Year 2003 Report.

¹³ Includes only the first three quarters of Calendar Year 2005.

Table 3-10 shows that a total of 1.7 tons of emission reductions were generated between October 1, 2003 and September 30, 2004 under Rule 1612.1. At the time of preparation of this report, the credit generation reports for 2004-2005 period have not been received. Again, data in support for credit generation pursuant to Rule 1612.1 have not been audited by AQMD staff and no credits have been deposited in the RECLAIM Reserve.

**Table 3-10
Emission Reductions Achieved Pursuant to Rule 1612.1 between October 1, 2003 and September 30, 2004**

| Number of Refuse Haulers Generating Credits | Reported NOx Reductions (tons) | 10% Retirement (tons) ⁹ | NOx ASCs (tons) |
|---|--------------------------------|------------------------------------|-----------------|
| 15 | 1.87 | 0.19 | 1.7 |

Table 3-11 shows that a total of 688.5 tons of NOx reductions were generated under the different protocols approved for pilot credit generation program. Discounting ten percent pursuant to the retirement provision that is common to all the pilot credit generation programs, 619.6 tons of NOx credits were generated. The reported activities are being audited. As such, no credits have been deposited in the RECLAIM Reserve nor used by RECLAIM facilities.

**Table 3-11
Summary of Emission Reduction Credits under Rule 2020**

| Rule Number | Reported NOx Reductions (tons) | 10% Retirement (tons) ⁹ | NOx Emission Reductions (tons) |
|-------------|--------------------------------|------------------------------------|--------------------------------|
| 1631 | 645.7 | 64.6 | 581.1 |
| 2507 | 40.9 | 4.1 | 36.8 |
| 1612.1 | 1.9 | 0.2 | 1.7 |
| Total | 688.5 | 68.9 | 619.6 |

Impact of Changing Universe

As discussed in Chapter 1, changes to the NOx RECLAIM universe during Compliance Year 2004 were: two new facilities opted to join RECLAIM, four facilities merged into two facilities which resulted in two exclusions, and thirteen facilities ceased operations. With respect to the SOx RECLAIM Universe, two of the thirteen NOx facilities which shut down were also SOx facilities. Staff conducted an analysis to evaluate the impact on emissions reductions due to such changes in the RECLAIM universe.

When a new facility joins the RECLAIM universe, they are required to obtain sufficient RTCs to offset their NOx or SOx emissions. These RTCs must be obtained through the trading market and are not issued by the AQMD to the facility. Such facilities increase the overall demand for the fixed supply of RTCs because they increase total RECLAIM emissions without increasing the total

supply of RTCs. For Compliance Year 2004, two new facilities opted to join the NOx RECLAIM program. Both of these facilities are still under construction and have not started operations.

The shutdown of a RECLAIM facility results in a reduction in actual emissions. The shutdown facility retains its RTC holdings, which it may continue to hold as an investment, transfer to another facility under common ownership, or trade on the market. Therefore, although the facility is no longer emitting, its RTCs may be used at another facility. This has the opposite effect on the RTC market as does a new facility — in this case the overall demand for RTCs is reduced while the supply remains constant. During Compliance Year 2004, eleven NOx RECLAIM facilities and two NOx and SOx RECLAIM facilities shut down permanently.

A facility is excluded from the Universe if it is determined that the facility was included in the program in error. In such cases, the RTCs that were issued to the facility for the future years are also withdrawn, thereby decreasing the supply of RTCs. On the other hand, exclusion also occurs when two RECLAIM facilities are merged into one. However, in contrast to the exclusion cases described above, the RTCs of the merged facility are also transferred into the remaining facility, thus, resulting in no impact to the supply of RTCs. Facilities were merged into one, if one or more adjacent facilities were found to be under common ownership. These circumstances arise if a RECLAIM facility takes over ownership of an adjacent facility or if the common ownership was not previously known to the AQMD. Under such a scenario, the two facilities are merged into one, with the extra facility excluded from RECLAIM. For Compliance Year 2004, two facilities were excluded from RECLAIM by way of merging them with other existing facilities. Therefore, these two exclusions did not impact the supply of RTCs.

Facilities that were in operation prior to October 15, 1993 may subsequently choose to enter the program even though they did not initially meet the inclusion criteria. If one of these facilities opted-in to the program, they are issued RTC allocations based on their operational history using the same methodology applied to facilities in the initial universe. Overall, inclusions shift the accounting of emissions from the universe of non-RECLAIM sources to the universe of RECLAIM sources without actually changing the overall emissions inventory. Inclusions also change the rules and requirements that apply to the affected facilities. No existing facilities chose to opt-in to the RECLAIM program in Compliance Year 2005.

In short, new facilities and shutdown facilities change the demand for RTCs without changing the supply while exclusions and inclusions of existing facilities make corresponding changes to both the demand and the supply, thereby mitigating their own impact on the markets.

Tables 3-12 and 3-13, respectively, summarize NOx and SOx emissions and allocations from new facilities and from facilities that were shut down, excluded from the program, or included into the program for the Compliance Year 2004.

Table 3-12
NOx Emissions Impact from the Changes in Universe (Tons)

| Category | 2004 NOx Emissions (tons) | 2004 NOx Initial Allocations (tons) |
|---------------------|----------------------------------|--|
| Shutdown Facilities | 155.7 | 589.7 |
| Excluded Facilities | Not applicable | Not applicable |
| Included Facilities | 0 | 0 |
| RECLAIM Universe | 9,953 | 12,477 |

Table 3-13
SOx Emissions Impact from the Changes in Universe (Tons)

| Category | 2004 SOx Emissions (tons) | 2004 SOx Initial Allocations (tons) |
|---------------------|----------------------------------|--|
| Shutdown Facilities | 68.2 | 153.7 |
| Excluded Facilities | Not applicable | Not applicable |
| Included Facilities | Not applicable | Not applicable |
| RECLAIM Universe | 3,580 | 4,292 |

CHAPTER 4

NEW SOURCE REVIEW ACTIVITY

Summary

The annual program audit assesses NSR activity from RECLAIM facilities in order to ensure that RECLAIM is complying with federal and state NSR requirements, while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2004, two new facilities joined the RECLAIM NOx program, while no facility joined the SOx program. Twenty-eight RECLAIM facilities had NSR NOx emission increases due to expansion or modification in Calendar Year 2004. Two facilities had minimal NSR SOx emission increases. These data indicate that the RECLAIM program does not inhibit start-up of a new facility or expansion at existing RECLAIM facilities.

RECLAIM is required to comply with federal NSR requirements at a 1.2-to-1 offset ratio for NOx and SOx emission increases on a programmatic basis. In Calendar Year 2004, RECLAIM provided an offset ratio of 589-to-1 for NOx and 6,979-to-1 for SOx on an aggregate basis, demonstrating federal equivalency. Compliance with the federally required offset ratio also demonstrates compliance with the state requirement of no net emissions increases from new or modified sources. In addition, RECLAIM requires application of Best Available Control Technologies for all new or modified sources with emission increases.

Background

Emissions increases from the construction of new or modified stationary sources in non-attainment areas are regulated by both federal and state NSR requirements to ensure that progress toward attainment of ambient air quality standards is not hampered. RECLAIM is designed to comply with federal and state NSR requirements without hindering facilities' ability to expand or modify their operations.

Sources in extreme non-attainment areas such as the South Coast Air Basin are required by Title 42, United States Code §7511a(e), to mitigate their emissions increases by providing emissions offsets at a 1.2-to-1 ratio or higher. Rule 2005 – New Source Review for RECLAIM requires RECLAIM facilities to provide, at the time when permits to operate are issued, sufficient RTCs to offset the annual emission increase for the first year of operation at a 1-to-1 ratio. After the first year of operation, the same rule also requires RECLAIM facilities to provide sufficient RTCs to offset at a 1-to-1 ratio the annual emissions from the newly permitted equipment at the commencement of each compliance year. Although RECLAIM allows a 1-to-1 offset ratio for emissions increases, RECLAIM complies with the federal offset requirement by demonstrating compliance with the 1.2-to-1 offset requirement on an aggregate basis. The annual reductions of aggregate allocations generate sufficient excess emissions reductions to mitigate the difference between the RECLAIM emissions offset ratio and the higher offset ratios required under federal law.

RECLAIM requires Best Available Control Technology (BACT) analysis for new or modified sources with emissions increases of RECLAIM pollutants. This provision demonstrates compliance with both the state and federal requirements regarding control technologies. In addition to offset and BACT requirements, RECLAIM subjects those RTC trades, which are conducted to mitigate emissions increases over the sum of the facility's starting allocation and non-tradable credits, to trading zone restrictions to ensure net ambient air quality improvement within the sensitive zone, as established in Health and Safety Code §40410.5. This annual audit report assesses NSR permitting activities for the 2004 calendar year to verify that programmatic compliance of RECLAIM with state and federal NSR requirements has been maintained.

NSR Activity

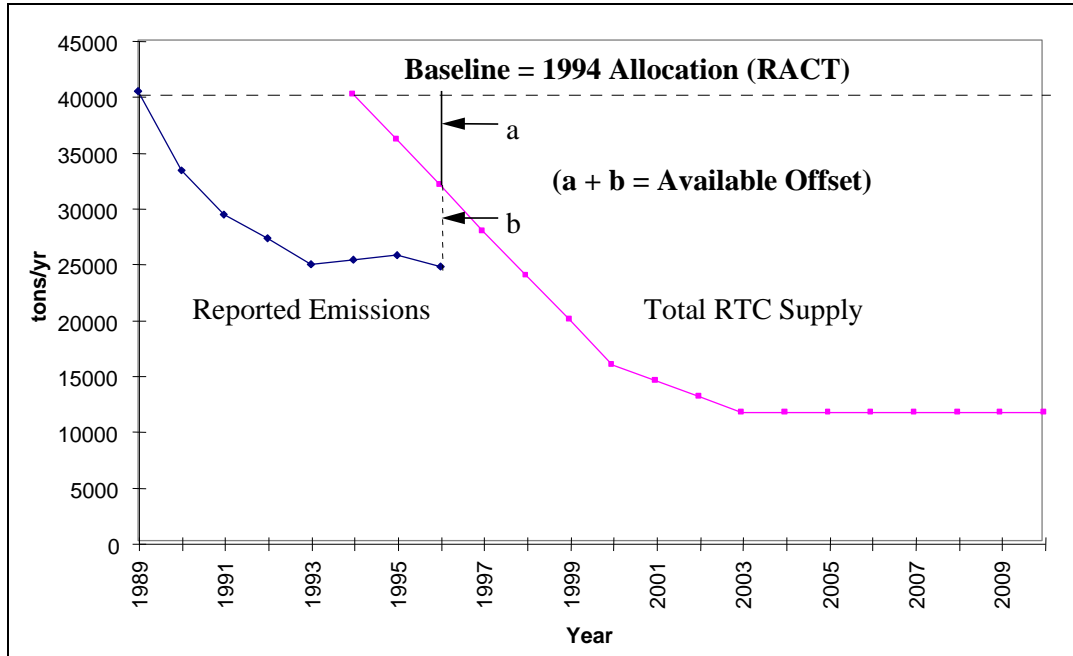
Evaluation of NSR data for Calendar Year 2004 indicates that RECLAIM facilities continue to successfully expand or modify their operations while complying with NSR requirements. Twenty-eight existing RECLAIM facilities experienced a total of 54 tons of NO_x NSR emission and two facilities have a total of 1.3 tons of SO_x NSR emission increases due to expansion or modification.

NSR Compliance Demonstration

RECLAIM is designed to comply with the federal NSR offset requirements. Meeting the NSR requirement (offset ratio of 1.2-to-1) also indicates compliance with the state requirement of no net emission increases from new or modified sources. Section 173 (c) of the federal Clean Air Act (Act) states that only emissions reductions beyond the requirements of the Act, such as Reasonably Available Control Technology (RACT), shall be considered creditable as emissions reductions for offset purposes. Since the initial allocations (total RTC supply in compliance year 1994) already met federal RACT requirements, any emissions reductions beyond the initial allocations are available for NSR offset purposes.

The methodology for determining the available offsets for NSR emissions increases from RECLAIM facilities is illustrated in Figure 4-1. In the figure, the solid line indicated by the letter "a" represents the programmatic reductions beyond the 1994 allocation level (baseline) via declining allocations. The dotted line indicated by the letter "b" accounts for the unused RTCs, (allocations - reported emissions) which also qualify as available NSR offsets. Consequently, the combined total of "a" and "b" is considered the total available offset for calculating the offset ratio to demonstrate compliance with federal NSR requirements.

Figure 4-1
Available Offsets for NSR Emissions Increase



To determine the NSR offset ratio, the available offset for each year is compared to the NSR emission increase for the same year according to the following methodology:

1. Offset Available = 1994 Initial Allocation (all available RTCs) - Annual Emission Reported (RTC used); "a" + "b" as shown in Figure 4-1
2. Offset Ratio = $[1 + (\text{Offset Available}/\text{NSR Emission Increase})]$ to 1 (One is added to "Offset Available/NSR Emission Increase" to reflect the fact that the NSR Emission Increase is included in reported emissions and, therefore, offset at a 1-to-1 ratio by the RTCs used to offset reported emissions)

Tables 4-1 and 4-2 summarize the NSR emission increases and the offset ratios calculated based on the above methodology for each calendar year since the start of the RECLAIM program in 1994. As noted in the tables, the aggregate offset ratios for RECLAIM facilities in Calendar Year 2004 are 589-to-1 and 6,979-to-1 for NO_x and SO_x emissions, respectively.

Table 4-1
Emission Reductions and Offset Ratios for NOx

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| NSR Emission Increase (tons) | 66 | 393 | 174 | 318 | 275 | 75 | 121 | 141 | 148 | 41 | 54 |
| Offsets Available (tons) | 11,028 | 14,253 | 18,341 | 15,331 | 19,753 | 20,648 | 21,008 | 25,752 | 30,728 | 31,747 | 31,736 |
| Offset Ratio | 168:1 | 37:1 | 106:1 | 49:1 | 73:1 | 276:1 | 175:1 | 184:1 | 209:1 | 775:1 | 589:1 |

Table 4-2
Emission Reductions and Offset Ratios for SOx

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|
| NSR Emission Increase (tons) | 37 | 42 | 63 | 62 | 8 | 0 | 0 | 0 | 0 | 5 | 1 |
| Offsets Available (tons) | 2,242 | 2,299 | 3,901 | 3,881 | 3,698 | 4,113 | 4,548 | 5,555 | 6,183 | 6,703 | 6,978 |
| Offset Ratio | 62:1 | 56:1 | 63:1 | 64:1 | 463:1 | N/A | N/A | N/A | N/A | 1,342:1 | 6,979:1 |

RECLAIM continues to generate sufficient excess emissions reductions to provide greater than 1.2-to-1 offset ratios as required by federal law. This compliance with the federal offset requirements is built into the design of the RECLAIM program through the annual reductions of the allocations assigned to RECLAIM facilities.

BACT and modeling are also required for any RECLAIM facility that installs new equipment or modifies existing sources if the installation or modification results in an increase in emissions of RECLAIM pollutants above the facility's original (1994) Allocation and Non-Tradable Credits. Furthermore, the RTC trading zone restrictions in Rule 2005 – New Source Review for RECLAIM, limit trades conducted to mitigate emission increases over the sum of the facility's starting allocation and non-tradable credits to ensure net ambient air quality improvement within the sensitive zone as required by state law.

The result of the review of the NSR activity in Calendar Year 2004 shows that RECLAIM is in compliance with both state and federal NSR requirements. AQMD will continue to monitor NSR activity under RECLAIM in order to assure continued progress toward attainment of ambient air quality standards without hampering economic growth in the Basin.

Rule 2004(q) Modeling Requirements

Rule 2004 as amended in May 2001 requires RECLAIM facilities with actual NO_x or SO_x emissions exceeding their initial allocation in Compliance Year 1994 by forty (40) tons per year or more to conduct modeling to analyze the potential impact of the increased emissions. The modeling analysis is required to be submitted within 90 days of the end of the compliance year. For Compliance Year 2004, two RECLAIM facilities were found to be subject to this requirement. Among these two facilities, one facility with NO_x emissions and one facility with SO_x emissions exceeded their respective initial allocations for Compliance Year 1994 by forty (40) tons or more. Both facilities conducted and submitted modeling analyses pursuant to this requirement.

CHAPTER 5 COMPLIANCE

Summary

During the 2004 compliance year, there were 324 NOx facilities and 35 SOx facilities in operation in the RECLAIM program. Two new facilities elected to join the NOx RECLAIM Program. Of these 326 NOx RECLAIM facilities, 313 facilities (96 percent) complied with their NOx Allocations and all 35 SOx facilities complied with their SOx Allocations during Compliance Year 2004. Audits of facility records for the compliance year are still on-going. Preliminary results of the Compliance Year 2004 audits revealed that the overall RECLAIM NOx and SOx emission goals were met for this compliance year. Thirteen facilities were found to have exceeded their individual allocations. The amounts of emissions in excess of individual allocations ranged from 40 pounds to 41.6 tons and the combined excess NOx emissions from these thirteen facilities totaled 58 tons. The most common cause for exceeding allocation in Compliance Year 2004 was failure to obtain sufficient RTCs to reconcile with quarterly emissions.

Background

RECLAIM facilities are provided with the flexibility to choose among compliance options, either trading RTCs or reducing emissions, to meet their annual allocations. However, this flexibility must be supported by standardized emission MRR requirements to ensure the reported emissions are real, quantifiable, and enforceable. In order to meet clean air goals, AQMD must ensure that the annual emissions targets for the RECLAIM facilities are being met. As a result, compliance is one of the most critical elements of the RECLAIM program.

The MRR requirements were designed to provide more accurate and up-to-date emission reports. Once facilities install and complete the certification of the required monitoring and reporting equipment, they are relieved from command-and-control rule limits and requirements. Mass emissions from RECLAIM facilities are then determined by the monitoring and reporting equipment. Failure to obtain quality assured data from the monitoring equipment or failure to file daily emissions reports by the time due results in emissions determined instead by a rule prescribed methodology known as Missing Data Procedure (MDP). Depending on the performance of the monitoring equipment (i.e., availability of quality assured data), the MDP uses a tiered approach to calculate emissions. As availability of quality assured data increases, the calculated emissions become more representative of the actual emissions.

Allocation Compliance

Requirements

At the beginning of the program, each RECLAIM facility received an annual allocation for each compliance year from 1994. Upon entry to the RECLAIM program, an existing facility new to the program is also issued annual allocations according to the same methodology as those facilities that were initially included

at the start of the program. A new facility without prior operating history receives no allocation and must purchase enough RTCs to cover the emissions for the upcoming compliance year before the start of a compliance year. With the knowledge of emission goals, RECLAIM facilities have the flexibility to decide how to manage their emissions in order to meet their allocations in the most cost-effective manner. Facilities may buy RTCs to increase their allocations or sell unneeded RTCs.

At the end of reconciliation period for each quarter and each compliance year, a RECLAIM facility must hold sufficient RTCs in its allocation account to cover its year-to-date emissions for the compliance year. Facilities may buy or sell RTCs from each other at any time during the year in order to ensure that their emissions are covered. In addition, at the end of each compliance year, there is a 60-day reconciliation period during which facilities have a final opportunity to buy or sell RTCs for that compliance year. By the end of this reconciliation period, each facility is required to certify the emissions for the preceding compliance year by submitting its APEP Report.

Compliance Audit

AQMD has conducted annual audits on the data submitted by RECLAIM facilities to ensure the integrity and reliability of the data each compliance year since the beginning of the program in 1994. The audit process includes field inspections to check the equipment, monitoring devices, operational records, and checking emissions calculations to verify the emissions reported to AQMD's Central Station or submitted in QCERs and APEP reports. These inspections revealed that some facilities made errors in quantifying their emissions, such as arithmetic errors, use of inappropriate emission factors, or inappropriate use of missing data substitution. Therefore, some of the reported emissions in the QCER or APEP reports had to be adjusted after completion of the audits.

Whenever an audit revealed a facility to be in exceedance of its annual allocation and the facility data appeared incomplete or inaccurate, the facility was provided an opportunity to review the audit and to present additional data to further refine the audit results. Emissions data are ensured to be valid and reliable through this extensive and rigorous audit process.

Compliance Status

At the beginning of Compliance Year 2004, there were 324 RECLAIM facilities. As stated in Chapter 1, two new facilities joined the NO_x RECLAIM program bringing the number of RECLAIM facilities to 326 during Compliance Year 2004. Based on QCERs, APEP reports or completed AQMD audit results, enforcement action was taken on thirteen NO_x facilities that did not reconcile their NO_x emissions with allocations. This corresponded to an overall compliance rate of 96 percent (313 out of 326 facilities) for NO_x RECLAIM facilities and 100 percent (35 out of 35 facilities) for SO_x RECLAIM facilities. The amount of excess emissions from these facilities totaled 58 tons of NO_x. Appendix D lists these facilities that were determined to have failed to reconcile NO_x emissions for Compliance Year 2004. Staff is conducting audits of emissions reported by facilities. As audits are completed, the list of facilities that exceeded their allocations is updated whenever applicable. The up-to-date list is available to the public at AQMD Headquarters in Diamond Bar by contacting RECLAIM

Administration Team staff. Additional cases of allocation violation may be identified after audits are finalized.

Based on the certified quarterly or annual emissions reports submitted by the facility or completed annual RECLAIM compliance audits conducted by AQMD staff, the main reasons for why facilities had an allocation exceedance are summarized below. For some facilities, more than one of these factors contributed to the exceedances.

- **Failure to Reconcile**

Thirteen facilities did not have sufficient RTCs to cover their reported emissions either at the quarterly reconciliation or the annual reconciliation.

- **Failure to Follow Missing Data Procedures**

RECLAIM rules require facilities to report emissions according to MDP when valid data are not obtained from the monitoring equipment or when daily emission reports for major sources are not submitted on time. MDP uses a conservative approach to estimate emissions. Only one facility had an allocation exceedance because it failed to properly apply MDP to its major source units. This facility installed a new major source and failed to certify the Continuous Emissions Monitoring Systems (CEMS) within 12 months of the start of operation. Within the audit process, staff determined emissions from this source using MDP.

Impact of Missing Data Procedure

MDP was designed to provide a method for determining emissions when an emission monitoring system fails to yield valid emissions. These occurrences may be caused by failure of the monitoring systems or the data acquisition and handling system (DAHS), which is required for major sources. In addition, major sources are required to use MDP for determining emissions whenever daily emissions reports are not submitted by the applicable deadline. Different sets of MDP are defined for different source classifications.

In addition to MDP for major sources, there are also MDP defined in the RECLAIM rules for large sources and process units. These procedures are applicable when a process monitoring device fails or when the facility operators fail to record process rates or fuel usage. However, the resulting emissions reports are reasonably representative of the actual emissions because average or maximum emissions from previous operating periods are allowed to be used.

Based on Compliance Year 2004 APEP reports, 106 NO_x facilities and 16 SO_x facilities used MDP in reporting their annual emissions. In terms of mass emissions, 8.3 percent of the total reported NO_x emissions and 10.4 percent of the total reported SO_x emissions in the APEP reports for Compliance Year 2004 were calculated using MDP. However, as previously discussed above, the majority of these emissions are representative of actual emissions from RECLAIM sources. Table 5-1 summarizes the impact of MDP on annual emissions for Compliance Years 1995 through 2004 (MDP did not apply during the 1994 compliance year).

Table 5-1
MDP Impact on Annual Emissions

| Emittant | Percent of Reported Emissions Using Substitute Data ¹ | | | | | | | | | |
|----------|--|-------------|-------------|--------------|--------------|---------------|--------------|--------------|--------------|---------------|
| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| NOx | 23% (65) | 20% (61) | 18% (83) | 7.3% (77) | 9.6% (84) | 6.5% (82) | 8.1% (47) | 3.4% (85) | 4.5% (87) | 8.3% (106) |
| SOx | 40% (12) | 16% (11) | 16% (17) | 13% (15) | 20% (13) | 10.7% (13) | 11% (9) | 4.8% (14) | 4.7% (15) | 10.4% (16) |

As indicated in the table, the current impact of MDP on reported emissions has significantly decreased when compared to the earlier years of the program. In most of the cases where MDP was used, the substituted data were representative of actual emissions, as explained below.

Most of the issues associated with CEMS certifications were resolved prior to the 1999 compliance year. Very few facilities have had to submit emissions reports based on the worst case scenario under MDP that considerably overstates the actual emissions from major sources. This scenario is applicable to sources that failed to have their CEMS certified in a timely manner where required, and therefore, no valid CEMS data can be used in the substitution. In cases where prior CEMS data is available, MDP is applied in tiers depending on the duration of missing data periods and the availability of monitoring systems. As the duration of missing data periods gets shorter and the historic availability of monitoring systems gets higher, the substitute data yielded by MDP become more representative of actual emissions.

As an example, most facilities that reported emissions using MDP in 1995 did so because they did not have their CEMS certified in time to report actual emissions. Since their CEMS had no prior data, MDP called for an application of the most conservative procedure to calculate substitute data by assuming continuous operation at the maximum rated capacity of their equipment, regardless of the actual operational level during the missing data periods. As a result, the calculation yielded substitute data that may have been much higher than the actual emissions. On the other hand, 106 facilities reported NOx emissions using MDP in Compliance Year 2004. Even though this is higher than those in 1995 in terms of the number of facilities, Compliance Year 2004 is much lower than Compliance Year 1995 in terms of the percentage of emissions reported and the actual mass emissions. Since most CEMS have been certified and had been reporting actual emissions by the beginning of the 1997 compliance year, facilities that had to calculate substitute data were able to apply less conservative methods of calculating MDP for systems with high availability and shorter duration of missing data periods. Therefore, the substitute data they calculated for their missing data periods were more representative of the actual emissions.

It is important to note that the portions of annual emissions that are attributed to MDP include actual emissions from the sources as well as the possible overestimated emissions due to MDP bias. For example, it is estimated that 8.3

¹ Numbers in parenthesis represent the number of facilities that reported use of MDP in each compliance year.

percent of NOx annual emissions were reported using MDP in Compliance Year 2004. This does not mean that 8.3 percent of Compliance Year 2004 reported NOx emissions were not real. A portion of the 8.3 percent may be overestimated emissions due to MDP bias, but a significant portion (or possibly all) of it could have been actual emissions from the sources. Unfortunately, the portion that represents the actual emissions cannot be readily estimated because the extent of this effect varies widely depending on source categories and operating parameters. As an example, refineries tend to operate at maximum capacity for 24 hours/day and seven days/week, barring major breakdowns or other unforeseeable circumstances. Therefore, missing data emissions calculated for such facilities could be more reflective of the actual emissions than those calculated for facilities that do not operate on a continuous basis. On the other hand, MDP could significantly overestimate emissions from sources that operate intermittently.

For Compliance Year 2004, the majority of NOx emissions data quantified using MDP (63 percent) and SOx emissions data quantified using MDP (91 percent) were reported by refineries. However, as mentioned before, these reported emissions are more likely to be actual emissions instead of overstated emissions due to the continuous nature of refinery operations.

Emissions Monitoring

Overview

The accuracy of reported RECLAIM facility emissions—and thereby the enforceability of the RECLAIM program—is assured through a three-tiered hierarchy of MRR requirements. The MRR category into which equipment at a facility falls is based on what kind of equipment it is and on the level of emissions produced or potentially produced by the equipment. RECLAIM divides all NOx sources into major sources, large sources, process units, and equipment exempt pursuant to Rule 219. All SOx sources are divided into major sources, process units, and equipment exempt pursuant to Rule 219. Table 5-2 shows the monitoring requirements applicable to each of these categories.

Table 5-2
Monitoring Requirements for RECLAIM Sources

| Source Category | Major Sources (NOx and SOx) | Large Sources (NOx only) | Process Units and Rule 219 Equipment (NOx and SOx) |
|---------------------|--|---|--|
| Monitoring Method | Continuous Emission Monitoring System (CEMS) | Fuel Meter or Continuous Process Monitoring System (CPMS) | Fuel Meter and/or Timer |
| Reporting Frequency | Daily | Monthly | Quarterly |

Continuous Emission Monitoring Systems (CEMS)

Requirements

CEMS represent both the most accurate and the most reliable method for continuously monitoring all of the parameters necessary to directly determine mass emissions of NO_x and SO_x, as well as the most costly method. These attributes make CEMS the most appropriate method for the largest equipment in the RECLAIM universe, major sources, which are relatively few in number but represent a majority of the total emissions from all equipment.

Alternatives to CEMS, or Alternative Continuous Emission Monitoring Systems (ACEMS), are allowed under the RECLAIM regulation. These are devices that do not directly monitor NO_x or SO_x mass emissions, instead, they correlate multiple process parameters to arrive at mass emissions. The requirements for ACEMS are that they must be determined by the AQMD to be equivalent to CEMS in relative accuracy, reliability, reproducibility, and timeliness.

Compliance Status

By the end of Calendar Year 1999, almost all facilities that were required to have CEMS had certified, or provisionally approved, their CEMS. The uncertified CEMS are for sources that recently became subject to major source reporting requirements or sources that modified their CEMS. It is expected that there will be a few new major sources each year. Therefore, there will continue to be a small number of CEMS in the certification process at any time. However, there are no longer any CEMS that have been in the process for a significant length of time and that are experiencing delays due to unusual circumstances.

Standing Working Group on RECLAIM CEMS Technical Issues

CEMS technical issues, which delayed certification of many CEMS, arose over the course of RECLAIM implementation. To address these issues and further assist facilities in complying with major source monitoring requirements, a Standing Working Group (SWG) on RECLAIM CEMS Technical Issues was formed to provide a forum in which facility representatives, consultants and AQMD staff could discuss and work out technically sound and reasonable solutions. In the past, the SWG met quarterly to discuss progress and also bring up new issues. However, the SWG no longer meets regularly, but can be convened as necessary.

Semiannual and Annual Assessments of CEMS

RECLAIM facilities have been conducting the Relatively Accuracy Test Audit (RATA) of certified CEMS—using private sector testing laboratories approved under the AQMD Laboratory Approval Program (LAP)—at their prescribed intervals, either semiannually or annually depending on the most recent relative accuracy value (the sum of the average differences and the confidence coefficient). The interval is annual only when all required relative accuracies obtained during an audit are 7.5 percent or less.

To verify the quality of CEMS, the RATA report compares the CEMS data to reference method data taken simultaneously by a LAP-approved source testing contractor. The relative accuracy performance requirements for the RATAs are

±20 percent for pollutant concentration, ±15 percent for stack flow rate, and ±20 percent for pollutant mass emission rate (the product of concentration and stack flow rate). The RATAs also determine whether CEMS data must be adjusted for low readings compared to the reference method (bias adjustment factor), and by how much. The RATA presents two pieces of data, the CEMS bias (how much it differs from the reference method on the average) and the CEMS confidence coefficient (how variable that bias or average difference is).

Table 5-3 summarizes passing rates for RATAs of certified CEMS, for NOx and SOx concentration, total sulfur in fuel gas concentrations, stack flow rate (in-stack monitors and F-factor based calculation), and NOx and SOx mass emissions through the 2004 calendar year.

**Table 5-3
Passing Rates Based on Relative Accuracy Test Audits of Certified CEMS in 2004²**

| Concentration | | | | | | Stack Flow Rate | | | | Mass Emissions | | | |
|---------------|--------|-----------------|--------|--------------|--------|------------------|--------|----------------------|--------|----------------|--------|------------------|--------|
| NOx | | SO ₂ | | Total Sulfur | | In-Stack Monitor | | F-Factor Based Calc. | | NOx | | SOx ³ | |
| No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass |
| 370 | 100 | 77 | 100 | 21 | 100 | 51 | 100 | 379 | 100 | 370 | 100 | 77 | 100 |

Table 5-4 summarizes the 2005 calendar year passing rates for RATAs of certified CEMS, for NOx and SOx concentration, total sulfur in fuel gas concentrations, stack flow rate (in-stack monitors and F-factor based calculation), and NOx and SOx mass emissions.

**Table 5-4
Passing Rates Based on Relative Accuracy Test Audits of Certified CEMS in 2005²**

| Concentration | | | | | | Stack Flow Rate | | | | Mass Emissions | | | |
|---------------|--------|-----------------|--------|--------------|--------|------------------|--------|----------------------|--------|----------------|--------|------------------|--------|
| NOx | | SO ₂ | | Total Sulfur | | In-Stack Monitor | | F-Factor Based Calc. | | NOx | | SOx ³ | |
| No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass | No. | % Pass |
| 364 | 100 | 71 | 100 | 20 | 100 | 45 | 100 | 369 | 100 | 364 | 100 | 71 | 100 |

As indicated in Tables 5-3 and 5-4, the passing rates for NOx/SO₂ concentration, stack flow rate, and mass emissions were high. Since the inception of RECLAIM there have been significant improvements with respect to the availability of reliable calibration gas, the reliability of the reference method, and an understanding of the factors that influence the ability to obtain valid total sulfur analyzer data. A greater familiarity with individual sources on the part of testing laboratories has also contributed to the high passing rates.

² All passing rates calculated from data submitted in electronic form before January 6, 2006 and may exclude some data from the 4th quarter of calendar year 2005. About 10 percent of test audits are still submitted in paper form and are not included in this table.

³ Does not include SOx emissions calculated from total sulfur analyzers.

Electronic Data Reporting of RATA Results

Facilities operating CEMS under RECLAIM are required to submit RATA results. Traditionally, these results are presented in formal source test reports. AQMD with help of the SWG, set up an electronic reporting system, known as Electronic Data Reporting (EDR), to allow RATA results to be submitted on diskettes or by electronic mail using a standardized format. This system minimizes the amount of material the facility has to submit to the AQMD and also facilitates the RATA review process. With this added option, many facilities have employed the EDR system to report RATA results that, in turn, has helped the AQMD in expediting the review process.

Emissions Reporting

Requirements

RECLAIM is designed to take advantage of electronic reporting technology to streamline reporting requirements for both facilities and AQMD, and to help automate tracking compliance. Under RECLAIM, facilities report their emissions electronically on a per device basis to the AQMD's Central Station computer as follows:

- Major sources must use a Remote Terminal Unit (RTU) to telecommunicate rule compliance data to the AQMD Central Station. The RTU collects data, performs calculations, generates the appropriate data files, and transmits the data to the Central Station.
- Rule compliance data for all equipment other than major sources may be transmitted via RTU or compiled manually and transmitted to the Central Station via modem. Alternatively, starting in January 2005, the existing AQMD internet based application, Web Access To Electronic Reporting System (WATERS), was upgraded to allow RECLAIM facilities to transmit emission data from these sources. The data may be transmitted directly by the facility or through a third party.

Compliance Status

The main concern for emission reporting is the timely submittal of daily reports from major sources. If daily reports are not submitted within the specified deadlines, RECLAIM rules may require that emissions from CEMS be ignored and the emissions be calculated using MDP. Daily emission reports are submitted by the RTU of the CEMS to the AQMD Central Station via telephone lines. Often communication errors between the two points are not readily detectable by the facility operators. Undetected errors will cause the facility operators to believe that the daily reports were submitted when they were not received by the AQMD. In addition to providing operators a means to confirm the receipt of the reports, the WATERS application can also be used to view the electronic reports that were submitted to, and received by, the Central Station. This system helps to reduce instances where MDP had to be used for late or missing daily reports in that the operators can re-submit the daily reports if there were communication errors.

Protocol Review

Even though it was only required for the first three compliance years of the RECLAIM program, staff continues to review the effectiveness of enforcement and MRR protocols. Based on such review, appropriate revisions to the protocols may be needed to achieve improved measurement and enforcement of RECLAIM emission reductions while minimizing administrative cost to the District and RECLAIM participants.

Since the program was adopted, staff has produced rule interpretations and implementation guidance documents to clarify and resolve specific concerns about the protocols raised by RECLAIM participants. In situations where staff could not make interpretations to existing rule requirements to adequately address the issues at hand, the protocols or rules have been amended. In June 2005, RECLAIM rule amendments were adopted to specify protocols for monitoring, reporting, and recordkeeping emissions from ships. The details of the rule amendments are discussed further in Chapter 3. Staff will continue to work closely with RECLAIM participants to resolve any issues and concerns that may arise.

CHAPTER 6

JOB IMPACTS

Summary

Most of the facilities responding to a survey of the impact of the RECLAIM program on jobs reported that RECLAIM did not contribute to job losses or gains during Compliance Year 2004. A total net loss of 1,807 jobs was reported by all RECLAIM facilities. Two facilities attributed a total of 31 job losses to the RECLAIM program, and two facilities reported a total of 4 jobs gained due to RECLAIM. Thirteen RECLAIM facilities were listed as shut down during Compliance Year 2004. One of these facilities indicated that RECLAIM was a contributing factor in their decision to close. None of the shutdown facilities listed any jobs lost due to RECLAIM on the survey forms.

Background

AQMD staff has assessed RECLAIM's impacts on jobs in the regional economy each year of the program. The assessment for Compliance Year 2004 was performed by examining job data submitted by RECLAIM facilities as part of their Compliance Year 2004 APEP reports.

The APEP report forms include a job information survey. Companies are asked to provide the number of manufacturing, non-manufacturing and sale of products jobs at the beginning of the compliance year; the number of jobs added, and the number of jobs eliminated during the compliance year. They are asked to quantify the net increase or decrease in the number of jobs due to the RECLAIM program, and to explain their reasons for attributing job loss or creation to RECLAIM.

Job Impacts

Table 6-1 summarizes job impact data gathered from Compliance Year 2004 APEP reports. Overall, RECLAIM facilities reported a net loss of 935 "Manufacturing" jobs, a net loss of 147 "Sales of Products" jobs, and a net loss of 725 "Non-Manufacturing" jobs. A total of 130 facilities reported 9,292 job gains, while a total of 157 facilities reported 11,099 overall job losses. According to this analysis, there was a reported net loss of 1,807 jobs for facilities in the RECLAIM program. This represents a net change in jobs of 1.6% during Compliance Year 2004.

Thirteen RECLAIM facilities were listed in Chapter 1 as shut down during Compliance Year 2004, and two others were excluded. The two excluded facilities had their ID numbers inactivated due to merger with an adjacent facility. Of the thirteen facilities that were listed as shut down, only eight actually ceased operations during the 2004 Compliance Year. Two of the other five facilities were closed in prior compliance years, but did not cancel their RECLAIM permit until 2004. Two facilities moved their operations to new locations within AQMD. Another facility cancelled their RECLAIM permit because they no longer operate any equipment requiring AQMD permits. No job losses from these five facilities were indicated on the APEP forms.

The remaining eight facilities permanently went out of business during the 2004 compliance year. None of them attributed the plant closure entirely to RECLAIM on their APEP form, and none of them specified any job loss due to RECLAIM. Six facilities cited economic reasons for either shutting down or consolidating production at other plants outside of AQMD. One facility indicated that the cost of regulatory compliance was a factor in the decision to close their plant, but they also cited decreasing demand for product and rising cost of raw materials as the primary reasons. One facility that failed to submit an APEP report for 2004 was found to have gone out of business. Representatives of that company could not be reached for comment. Appendix C lists information regarding facilities that ceased operation or were excluded in Compliance Year 2004.

**Table 6-1
Job Impacts at RECLAIM Facilities during the 2004 Compliance Year**

| Description | Manufacture | Sales of Products | Non-Manufacture | Total |
|---------------------------------|-------------|-------------------|-----------------|---------|
| Initial Jobs | 50,606 | 1,403 | 60,847 | 112,856 |
| Overall Job Gain | 4,258 | 147 | 4,887 | 9,292 |
| Overall Job Loss | 5,193 | 294 | 5,612 | 11,099 |
| Final Jobs | 49,671 | 1,256 | 60,122 | 111,049 |
| Net Job Change | -935 | -147 | -725 | -1,807 |
| Percent (%) Job Change | -2% | -10% | -1% | -1.60% |
| Facilities Reporting Job Gains | 99 | 25 | 77 | 130 |
| Facilities Reporting Job Losses | 118 | 32 | 95 | 157 |

To properly assess RECLAIM's impact on jobs in the regional economy, AQMD staff has identified and reviewed the APEP forms from those facilities that reported job gains or losses specifically due to the RECLAIM program. Three facilities reported job losses due to RECLAIM in Compliance Year 2004. One company reported that 25 jobs were lost when some of their operations were relocated to plants outside AQMD because of "compliance issues". AQMD staff contacted representative of that company, who stated that the reduction of their NOx Allocation led them to reconsider a planned expansion and move some production to other plants instead. Another company stated that one job was lost because RECLAIM increased their production costs. The third company indicated that RECLAIM contributed to job loss at the facility. However, they did not specify how many jobs were lost due to RECLAIM. Their APEP form reported a loss of 129 manufacturing jobs when it shut down in 2004. The reason given for the closure was the high cost of production, including compliance costs, combined with declining demand for products.

Three facilities reported a total of 4 jobs gained due to the RECLAIM program. Each of these companies indicated that additional employees were needed to handle the increased workload introduced by monitoring and recordkeeping requirements. One other company reported increased work load due to RECLAIM, but they did not add any jobs in 2004.

The detailed information for facilities that reported job gains and losses due to RECLAIM in APEP forms for Compliance Year 2004 is included in Appendix E. It

should also be noted that the analysis of job impacts is confined to job gains and losses that occurred at RECLAIM facilities. It does not address jobs created or eliminated in the economy outside of RECLAIM facilities as a result of the RECLAIM program.

CHAPTER 7

AIR QUALITY AND PUBLIC HEALTH IMPACTS

Summary

Emissions reported by RECLAIM facilities have been in an overall downward trend since the program's inception. Comparing emissions in Compliance Year 2004 to emissions in Compliance Year 2003, SOx emissions continued its downward trend, where as, NOx emissions essentially remained the same (slightly higher by 0.1 percent). Quarterly NOx emissions ranged from approximately 3 percent below to 7 percent above the mean NOx emissions throughout Calendar Year 2004. Quarterly SOx emissions stayed within 5 percent of the mean SOx emissions. Thus, there is no seasonal fluctuation in emissions. Furthermore, this year's analysis, as in each previous year's analysis, of the geographical distribution of emissions on a quarterly basis does not show any distinct shift in the geographical distribution of emissions.

The California Clean Air Act (CCAA) requires a 50 percent reduction in population exposure to ozone by December 31, 2000. Analysis of per capita exposure (the length of time each person is exposed) to ozone in 1998 and 2000 shows that the Basin achieved the December 2000 target for ozone well before the deadline. In fact, Los Angeles County, Orange County, and the South Coast Air Basin overall achieved attainment with the December 2000 target prior to 1994 and Riverside and San Bernardino Counties achieved attainment in 1996. In Compliance Year 2004, the per capita exposure to ozone continues to be well below the target set for December 2000.

Air toxic health risk is primarily caused by emissions of volatile organic compounds (VOCs) and metals, rather than NOx or SOx emissions. Additionally, RECLAIM facilities are subject to the same air toxic regulations as other sources in the Basin. Therefore, it can be concluded that there is no toxic impact due to the implementation of the RECLAIM program beyond what would have occurred pursuant to the rules and control measures RECLAIM subsumed.

Background

RECLAIM is designed to achieve the same, or a higher level of, benefits in terms of air quality and public health as would have been achieved from implementation of the control measures and command-and-control rules that RECLAIM subsumed. Therefore, as a part of each annual program audit, AQMD evaluates per capita exposure to air pollution, toxic risk reductions, emission trends, and seasonal fluctuations in emissions. AQMD also maintains quarterly emissions maps depicting the geographic distribution of RECLAIM emissions. This chapter addresses:

- Emission trends for RECLAIM facilities;
- Seasonal fluctuations in emissions;
- Geographic patterns of emissions;
- Per capita exposure to air pollution; and
- Toxics impacts.

Emission Trends for RECLAIM Sources

Concerns were expressed during program development that RECLAIM might cause sources to increase their aggregate emissions during the early years of the program due to perceived over-allocation of emissions. The analysis of emissions from RECLAIM sources indicates that this did not occur. Figures 7-1 and 7-2 show NO_x and SO_x emissions for RECLAIM sources for 1989 through 2004.

Figure 7-1
NO_x Emission Trend for RECLAIM Sources

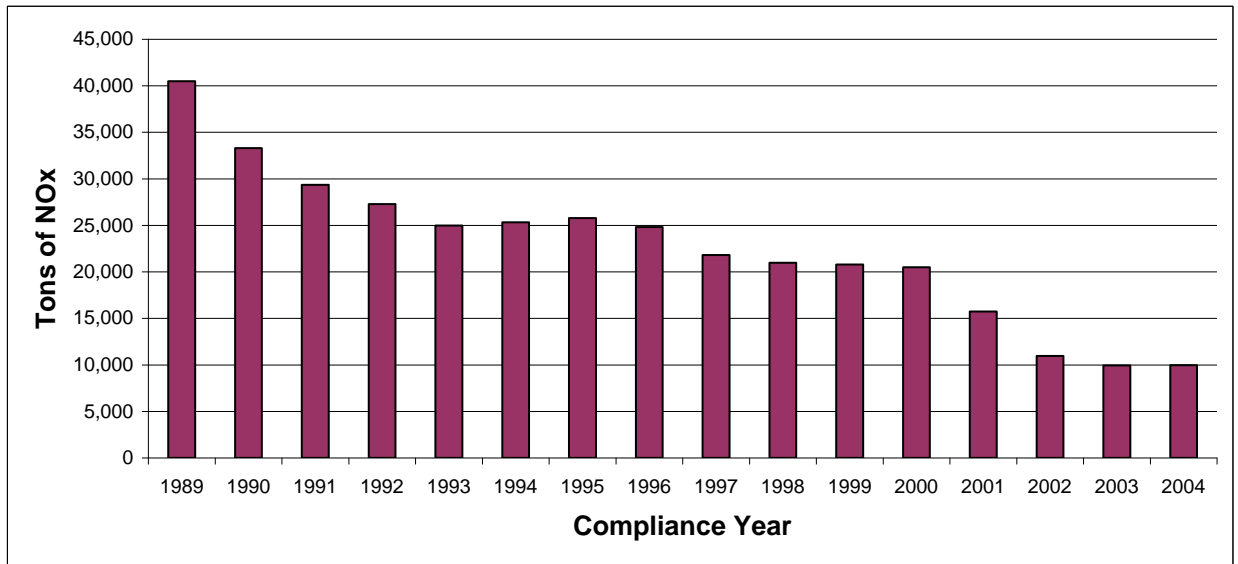
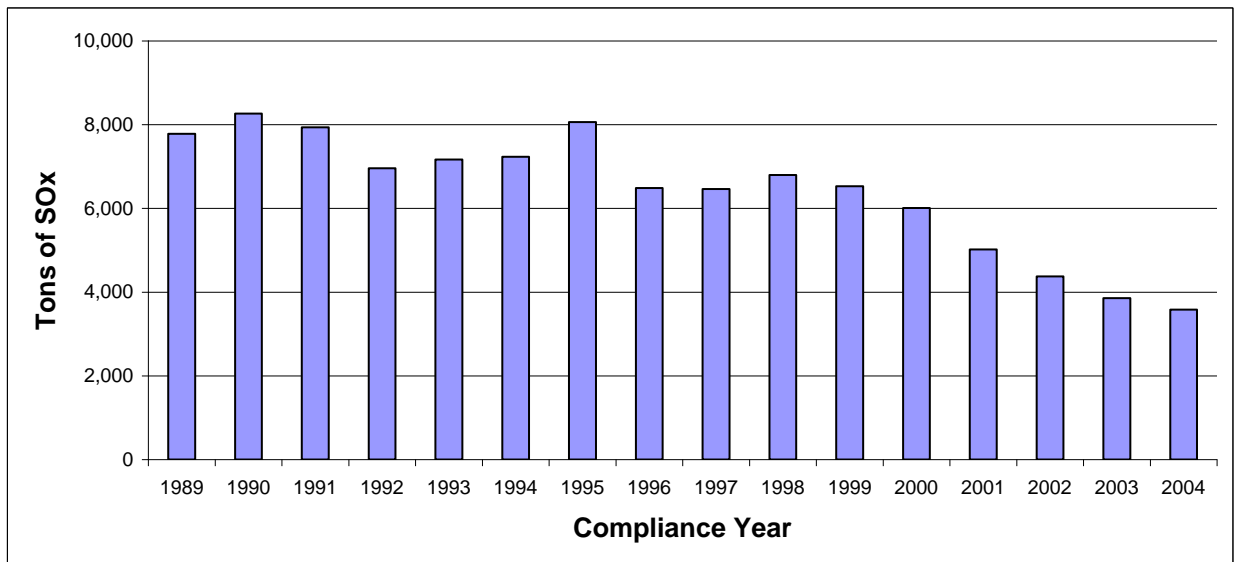


Figure 7-2
SO_x Emission Trend for RECLAIM Sources



Overall, Figures 7-1 and 7-2 indicate a general downward trend in both NOx and SOx emissions since the inception of RECLAIM. NOx emissions have decreased every year since 1997. NOx emissions in the 2004 compliance year stayed essentially the same when compared to NOx emissions in the previous year (9,953 tons in 2004 vs. 9,942 tons in 2003) varying only by 0.1 percent. When comparing annual SOx emissions from 1997 through 2004, there was a slight increase in SOx emissions in 1998, with 1999 SOx emissions comparable to 1997. However, since 1998, SOx emissions have decreased every year. Overall, the figures clearly show that RECLAIM facilities did not increase their aggregate emissions during the earlier years of the program, dispelling the concerns about higher emissions in the early years.

Seasonal Fluctuation in Emissions for RECLAIM Sources

During program development, another concern was that RECLAIM might cause facilities to shift emissions from the winter season into the summer ozone season, thus exacerbating air quality. To address this concern, AQMD staff analyzed quarterly emissions during Calendar Year 2004 to assess if there had been such a shift in emissions. Where available, completed audited quarterly emissions data was used for this analysis. Where completed audits were unavailable, emissions as reported by facilities (either under the APEP reports or the QCERs) were used.

Figure 7-3
Calendar Year 2004 NOx Quarterly Emissions

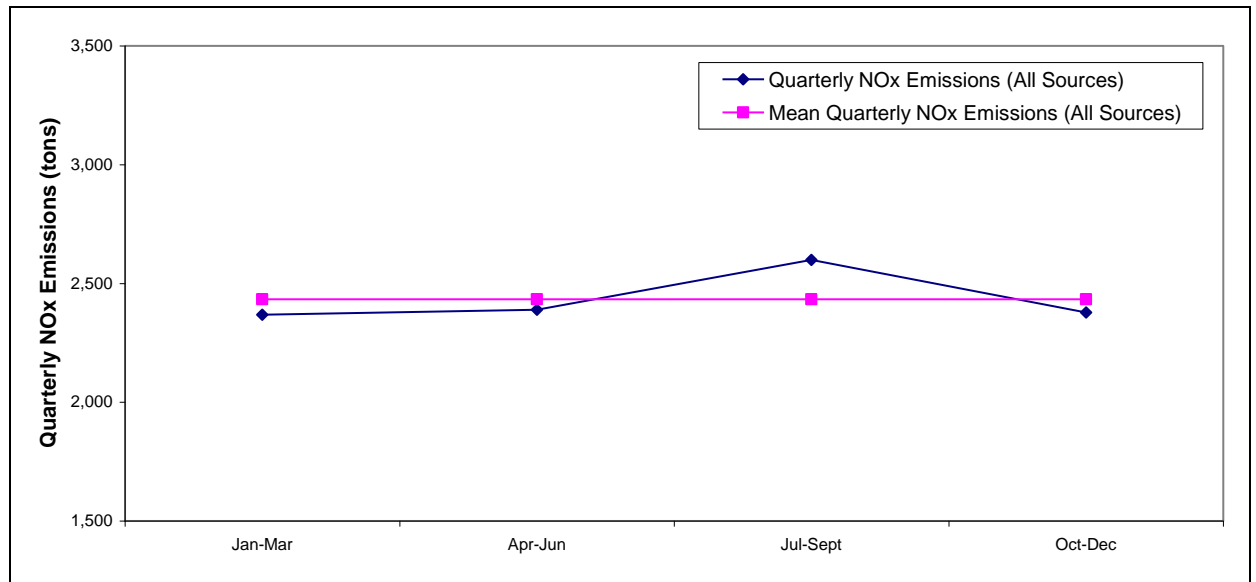


Figure 7-3 shows the mean quarterly NOx emissions, which is the average of the four quarterly emissions, versus the actual quarterly emissions. Aggregate quarterly NOx emissions varied from about 3 percent below the mean in the first quarter (January through March) to about 7 percent above the mean in the third quarter (July through September). Thus, there is no significant seasonal shift in NOx emissions.

Figure 7-4
Calendar Year 2004 SOx Quarterly Emissions

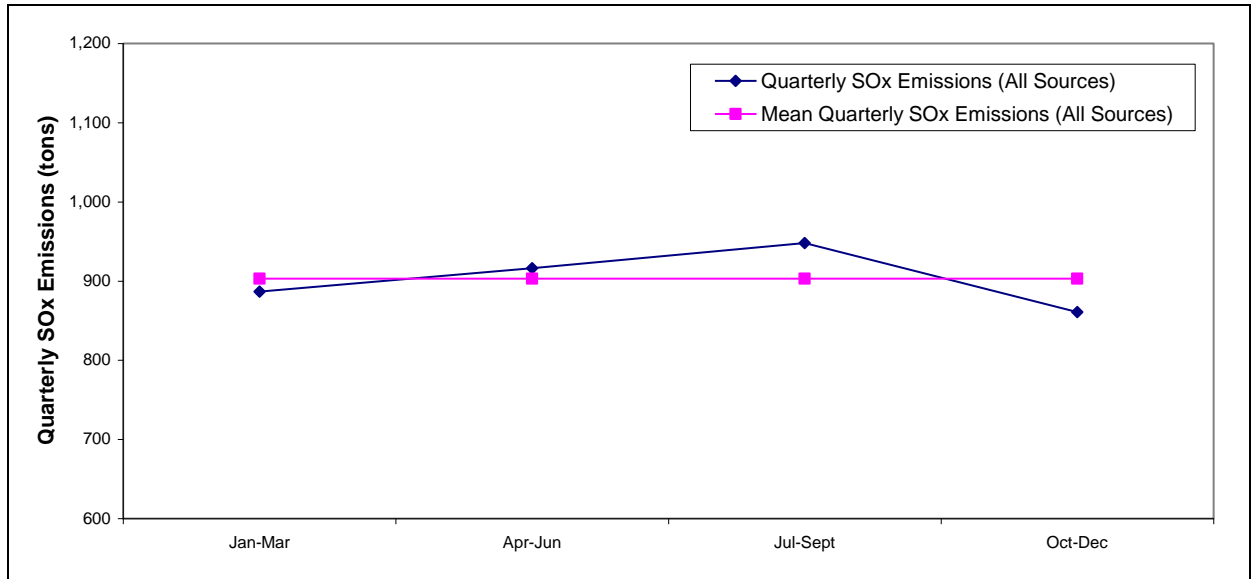


Figure 7-4 showed that quarterly SOx emissions during Calendar Year 2004 varied from about 5 percent above the mean in the third quarter (July through September) to about 5 percent below the mean in the fourth quarter (October through December). Therefore, there was similarly no significant seasonal shift of SOx emissions from the winter season into the summer ozone season.

Geographic Distribution of Emissions

As part of this program audit, AQMD staff examined the quarterly emissions maps, which were developed pursuant to Rule 2015(b)(2), for any notable changes in the geographic distribution of emissions. RECLAIM facilities have the flexibility to increase emissions as much as they need to, as long as they can provide RTCs to offset the emissions exceeding their allocations; however, there are NSR implications if they increase above their Compliance Year 1994 Allocation including non-tradable credits. Because of this flexibility and the ability of RECLAIM facilities to purchase RTCs from other facilities, some people were concerned that RECLAIM could alter the geographic distribution of emissions in the Basin and adversely affect air quality in certain areas.

Quarterly emissions for both NOx and SOx were mapped for Compliance Year 2004 (all four quarters of 2004 and the first two quarters of 2005). These maps are included in Appendices F and G. The quarterly emission maps do not show any distinct shift in the geographic pattern of emissions. AQMD will continue to review additional quarterly maps and assess the geographic patterns of emissions as the information becomes available.

Per Capita Exposure to Pollution

The predicted effects of RECLAIM on air quality and public health were thoroughly analyzed through modeling during program development. The results were compared to projected impacts from the continuation of the traditional command-and-control regulations and implementation of control measures in the

1991 AQMP. One of the criteria examined in the analysis was per capita population exposure.

Per capita population exposure reflects the length of time each person is exposed to unhealthful air quality. The modeling performed in the analysis projected that the reductions in per capita exposure under RECLAIM in Calendar Year 1994 would be nearly identical to the reductions projected for implementation of the control measures in the 1991 AQMP, and the reductions resulting from RECLAIM would be greater in Calendar Years 1997 and 2000.

Table 7-1 compares the projected Calendar Years 1994 and 1997 per capita exposures to ozone based upon continuation of the command-and-control regulatory approach and the implementation of the control measures in the 1991 AQMP with the actual per capita exposure in the Basin for Calendar Years 1994 and 1997. Table 7-2 summarizes Calendar Years 1998 through 2005 ozone data in terms of the number of days that exceeded the state and federal ambient ozone standards and the Basin's maximum concentration during each of these eight calendar years. The data also shows that Calendar Year 2005 was similar to Calendar Year 2004 in all three categories of number of days exceeding the state ambient ozone standard, the number of days exceeding the federal ambient ozone standard, and the maximum Basin concentration.

**Table 7-1
Comparison of Per Capita Exposures Over State Standard for Ozone
1991 AQMP Projection Vs Actual Exposures**

| Calendar Year | Projected Per Capita Exposure based on 1991 AQMP (hrs) | Actual Per Capita Exposure (hrs) |
|---------------|--|----------------------------------|
| 1994 | 38.6 | 37.6 |
| 1997 | 32.0 | 5.9 |

**Table 7-2
Summary of Ozone Data**

| | Calendar Year | | | | | | | |
|---------------------------------|---------------|------|------|------|------|------|------|------|
| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| Days exceeding state standard | 113 | 120 | 125 | 121 | 118 | 133 | 110 | 111 |
| Days exceeding federal standard | 62 | 42 | 40 | 36 | 49 | 68 | 27 | 28 |
| Basin Maximum (pphm) | 24 | 17 | 18.5 | 19.1 | 16.9 | 21.6 | 16.3 | 16.3 |

Table 7-3 compares the actual per capita exposures to the exposure milestones as specified in the CCAA for Calendar Years 1997 and 2000. The CCAA establishes specific milestones for achieving reductions in overall population exposure to severe non-attainment pollutants in the Basin. These milestones include a 25 percent reduction by December 31, 1994, a 40 percent reduction by December 31, 1997, and a 50 percent reduction by December 31, 2000, relative to a Calendar Years' 1986-88 baseline. The data presented in Table 7-3 for

actual per capita exposure in both Calendar Years 1997 and 2000 for the four counties, and the Basin overall, have shown substantial progress toward continuous attainment of the state standard. As indicated in Table 7-3, actual reductions in per capita exposure in Calendar Year 1997 have gone well beyond the 50 percent reduction target scheduled for Calendar Year 2000.

Table 7-3
Per Capita Exposure to Ozone above the State Standard of 0.09 ppm (hours)

| Calendar Year | Basin | Los Angeles | Orange | Riverside | San Bernardino |
|-------------------------------|-------|-------------|--------|-----------|----------------|
| 1986-88 baseline ¹ | 80.5 | 75.8 | 27.2 | 94.1 | 192.6 |
| 1994 actual | 37.6 | 26.5 | 9 | 71.1 | 124.9 |
| 1995 actual | 27.7 | 20 | 5.7 | 48.8 | 91.9 |
| 1996 actual | 20.3 | 13.2 | 4 | 42.8 | 70 |
| 1997 actual | 5.9 | 3 | 0.6 | 13.9 | 24.5 |
| 1998 actual | 12.1 | 7.9 | 3.1 | 25.2 | 40.2 |
| 2000 actual | 3.8 | 2.6 | 0.7 | 8.5 | 11.4 |
| 2001 actual | 1.73 | 0.88 | 0.15 | 6 | 5.68 |
| 2002 actual | 3.87 | 2.16 | 0.13 | 11.12 | 12.59 |
| 2003 actual | 10.92 | 6.3 | 0.88 | 20.98 | 40.21 |
| 2004 actual | 3.68 | 2.26 | 0.50 | 6.82 | 12.34 |
| 2005 actual | 3.11 | 1.43 | 0.03 | 6.06 | 12.54 |
| 1997 target ² | 48.3 | 45.5 | 16.3 | 56.5 | 115.6 |
| 2000 target ³ | 40.2 | 37.9 | 13.6 | 47 | 96.3 |

The three tables (Tables 7-1, 7-2, and 7-3) in combination show that actual per capita exposure during all the years mentioned continues to be well under the projected exposure in the 1991 AQMP. It should also be noted that air quality in the Basin is a complex function of meteorological conditions and an array of different emission sources, including mobile, area, RECLAIM stationary sources, and non-RECLAIM stationary sources. Therefore, the reduction of per capita exposure beyond the projected level is not necessarily attributable to implementation of the RECLAIM program. It is possible that actual per capita exposure might have been as low, if not lower, with continuation of command-and-control regulations.

Toxic Impacts

Based on a comprehensive toxic impact analysis performed during program development, it was concluded that RECLAIM would not result in any significant impacts on air toxic emissions. Nevertheless, to ensure that the implementation of RECLAIM does not result in adverse toxic impacts, each annual program audit is required to assess any increase in the public health exposure to toxics as a result of RECLAIM.

¹ Average over three years, 1986 through 1988

² 60% of the 1986-88 baseline exposures

³ 50% of the 1986-88 baseline exposures

RECLAIM sources are subject to the same air toxic regulations (i.e., AQMD Regulation XIV, State AB 2588, Federal National Emissions Standards for Hazardous Air Pollutants, etc.) as other sources in the Basin. These regulations further ensure that RECLAIM does not result in adverse air toxic health impacts. In addition, air toxic health risk is primarily caused by emissions of VOC and certain metals, rather than NO_x or SO_x emissions. The majority of VOC sources at RECLAIM facilities are subject to source-specific command-and-control rules, in addition to the applicable toxics requirements described above. Similarly, sources of toxic metals emissions are also subject to the above-identified regulations pertaining to toxic emissions. As a result, implementation of NO_x and SO_x RECLAIM is not expected to significantly impact air toxic emissions. That is, the substitution of NO_x and SO_x RECLAIM for the command-and-control rules and the measures RECLAIM subsumes are not relevant to toxic emissions; the same toxics requirements and VOC rules and control measures apply in either case. However, AQMD will continue to monitor and assess toxic risk reduction as part of future annual audits.

LIST OF ABBREVIATIONS

| | |
|---------|--|
| ACEMS | Alternative Continuous Emissions Monitoring System |
| APEP | Annual Permit Emissions Program |
| AQIP | Air Quality Investment Program |
| AQMD | South Coast Air Quality Management District |
| AQMP | Air Quality Management Plan |
| ASC | Area Source Credit |
| BACT | Best Available Control Technology |
| BARCT | Best Available Retrofit Control Technology |
| CARB | California Air Resources Board |
| CCAA | California Clean Air Act |
| CEMS | Continuous Emissions Monitoring System |
| CPMS | Continuous Process Monitoring System |
| DAHS | Data Acquisition and Handling System |
| EDR | Electronic Data Reporting |
| ERC | Emission Reduction Credit |
| LAP | Laboratory Approval Program |
| MDP | Missing Data Procedures |
| MRR | Monitoring, Recordkeeping and Reporting |
| MSERC | Mobile Source Emission Reduction Credit |
| NOx | Oxides of Nitrogen |
| NSR | New Source Review |
| QCER | Quarterly Certification of Emissions Report |
| RACT | Reasonably Available Control Technology |
| RATA | Relative Accuracy Test Audit |
| RECLAIM | REgional CLean Air Incentives Market |
| RTC | RECLAIM Trading Credit |
| RTU | Remote Terminal Unit |
| SOx | Oxides of Sulfur |
| SWG | Standing Working Group |
| USEPA | United States Environmental Protection Agency |
| VOC | Volatile Organic Compound |
| WATERS | Web Access To Electronic Reporting System |

APPENDIX A

RECLAIM UNIVERSE OF SOURCES

The RECLAIM universe of sources as of the end of the 2004 compliance year is provided below.

| Facility ID | Cycle | Facility Name | Market |
|-------------|-------|--|---------|
| 800088 | 2 | 3M COMPANY | NOx |
| 16395 | 2 | AAA GLASS CORP | NOx |
| 73635 | 1 | ABLESTIK LABORATORIES | NOx |
| 104012 | 1 | AERA ENERGY LLC | NOx |
| 104013 | 2 | AERA ENERGY LLC | NOx |
| 104015 | 2 | AERA ENERGY LLC | NOx |
| 104017 | 1 | AERA ENERGY LLC | NOx |
| 23752 | 2 | AEROCRAFT HEAT TREATING CO INC | NOx |
| 115394 | 1 | AES ALAMITOS, LLC | NOx |
| 115389 | 2 | AES HUNTINGTON BEACH, LLC | NOx/SOx |
| 42676 | 2 | AES PLACERITA INC | NOx |
| 115536 | 1 | AES REDONDO BEACH, LLC | NOx |
| 3417 | 1 | AIR PROD & CHEM INC | NOx |
| 101656 | 2 | AIR PRODUCTS AND CHEMICALS, INC. | NOx |
| 5998 | 1 | ALL AMERICAN ASPHALT | NOx |
| 114264 | 1 | ALL AMERICAN ASPHALT | NOx |
| 3704 | 2 | ALL AMERICAN ASPHALT, UNIT NO.01 | NOx |
| 21290 | 1 | ALPHA BETA CO/RALPH GROCERY CO | NOx |
| 800196 | 2 | AMERICAN AIRLINES INC (EIS USE) | NOx |
| 45527 | 2 | AMERICAN RACING EQUIPMENT INC | NOx |
| 60540 | 1 | AMERICAN RACING EQUIPMENT INC, PLNT #2 | NOx |
| 21598 | 2 | ANGELICA TEXTILE SERVICES | NOx |
| 74424 | 2 | ANGELICA TEXTILE SERVICES | NOx |
| 10141 | 2 | ANGELICA TEXTILE SERVICES | NOx |
| 16642 | 1 | ANHEUSER-BUSCH INC., (LA BREWERY) | NOx/SOx |
| 117140 | 2 | AOC, LLC | NOx |
| 11640 | 1 | ARLON ADHESIVE SYSTEM/DECORATIVE FILMS | NOx |
| 12155 | 1 | ARMSTRONG WORLD INDUSTRIES INC | NOx |
| 16737 | 2 | ATKINSON BRICK CO | NOx |
| 10094 | 2 | ATLAS CARPET MILLS INC | NOx |
| 117290 | 2 | B BRAUN MEDICAL, INC | NOx |
| 800016 | 2 | BAKER COMMODITIES INC | NOx |
| 117785 | 1 | BALL METAL BEVERAGE CONTAINER CORP. | NOx |
| 800205 | 2 | BANK OF AMERICA NT & SA, BREA CENTER | NOx |
| 40034 | 1 | BENTLEY PRINCE STREET INC | NOx |
| 134768 | 1 | BENTLEY-SIMONSON INC | NOx |
| 134781 | 1 | BENTLEY-SIMONSON INC | NOx |
| 119907 | 1 | BERRY PETROLEUM COMPANY | NOx |
| 132068 | 1 | BIMBO BAKERIES USA INC | NOx |
| 113240 | 2 | BLACK HILLS ONTARIO LLC | NOx |
| 136516 | 2 | BLACKSAND PARTNERS LP | NOx |
| 133405 | 1 | BODYCOTE THERMAL PROCESSING | NOx |
| 115241 | 1 | BOEING SATELLITE SYSTEMS INC | NOx |
| 800067 | 1 | BOEING SATELLITE SYSTEMS INC | NOx |
| 800343 | 2 | BOEING SATELLITE SYSTEMS, INC | NOx |
| 131003 | 2 | BP WEST COAST PROD. LLC, CARSON REFINERY | NOx/SOx |
| 131249 | 1 | BP WEST COAST PRODUCTS LLC,BP WILMINGTON | NOx/SOx |
| 10340 | 1 | BREA CANYON OIL CO INC | NOx |

ANNUAL RECLAIM AUDIT

| Facility ID | Cycle | Facility Name | Market |
|-------------|-------|---|---------|
| 98159 | 2 | BREITBURN ENERGY CORP | NOx |
| 25638 | 2 | BURBANK CITY, BURBANK WATER & POWER | NOx |
| 800344 | 1 | CALIFORNIA AIR NATIONAL GUARD, MARCH AFB | NOx |
| 22607 | 2 | CALIFORNIA DAIRIES, INC | NOx |
| 138568 | 1 | CALIFORNIA DROP FORGE, INC | NOx |
| 800181 | 2 | CALIFORNIA PORTLAND CEMENT CO (NSR USE) | NOx/SOx |
| 46268 | 1 | CALIFORNIA STEEL INDUSTRIES INC | NOx |
| 107653 | 2 | CALMAT CO | NOx |
| 107654 | 2 | CALMAT CO | NOx |
| 107655 | 2 | CALMAT CO | NOx |
| 107656 | 2 | CALMAT CO | NOx |
| 119104 | 1 | CALMAT CO | NOx/SOx |
| 8791 | 2 | CAL-PACIFIC DYEING & FINISHING CORP | NOx |
| 9141 | 1 | CANNERS STEAM CO INC | NOx/SOx |
| 94930 | 1 | CARGILL INC | NOx |
| 22911 | 2 | CARLTON FORGE WORKS | NOx |
| 118406 | 1 | CARSON COGENERATION COMPANY | NOx |
| 141555 | 2 | CASTAIC CLAY PRODUCTS, LLC | NOx |
| 800373 | 1 | CENCO REFINING COMPANY | NOx/SOx |
| 800030 | 2 | CHEVRON PRODUCTS CO. | NOx/SOx |
| 95212 | 1 | CHROMA SYSTEMS PARTNERS | NOx |
| 56940 | 1 | CITY OF ANAHEIM/COMB TURBINE GEN STATION | NOx |
| 129810 | 1 | CITY OF RIVERSIDE PUBLIC UTILITIES DEPT | NOx |
| 139796 | 1 | CITY OF RIVERSIDE PUBLIC UTILITIES DEPT | NOx |
| 16978 | 2 | CLOUGHERTY PACKING CO, FARMER JOHN MEATS | NOx |
| 62281 | 2 | COASTCAST CORP | NOx |
| 110982 | 1 | COMMONWEALTH ALUMINUM CONCAST | NOx |
| 800210 | 2 | CONEXANT SYSTEMS INC | NOx |
| 800362 | 1 | CONOCOPHILLIPS COMPANY | NOx/SOx |
| 800363 | 2 | CONOCOPHILLIPS COMPANY | NOx/SOx |
| 122822 | 2 | CONSOLIDATED FILM INDUSTRIES, LLC | NOx |
| 38440 | 2 | COOPER & BRAIN - BREA | NOx |
| 2537 | 2 | CORONA CITY, DEPT OF WATER & POWER | NOx |
| 68042 | 2 | CORONA ENERGY PARTNERS, LTD | NOx |
| 65384 | 1 | CRITERION CATALYST CO L.P. | NOx |
| 15982 | 2 | CUSTOM ALLOY SALES INC | NOx |
| 50098 | 1 | D&D DISPOSAL INC, WEST COAST RENDERING CO | NOx |
| 63180 | 1 | DARLING INTERNATIONAL INC | NOx |
| 3721 | 2 | DART CONTAINER CORP OF CALIFORNIA | NOx |
| 7411 | 2 | DAVIS WIRE CORP | NOx |
| 143739 | 2 | DCOR LLC | NOx |
| 143740 | 2 | DCOR LLC | NOx |
| 132071 | 1 | DEAN FOODS CO. OF CALIFORNIA | NOx |
| 47771 | 1 | DELEO CLAY TILE CO INC | NOx |
| 800037 | 2 | DEMENNO/KERDOON | NOx |
| 125579 | 1 | DIRECTV | NOx |
| 800189 | 1 | DISNEYLAND RESORT | NOx |
| 38872 | 1 | DOANE PET CARE COMPANY | NOx |
| 800038 | 2 | DOUGLAS PRODUCTS DIVISION | NOx |
| 142536 | 2 | DRS TECHNOLOGIES, INC. | NOx |
| 121746 | 2 | DUKESOLUTIONS HUNTINGTON BEACH, LLC | NOx |
| 104571 | 2 | E & J TEXTILE GROUP, INC | NOx |
| 800264 | 2 | EDGINGTON OIL COMPANY | NOx/SOx |
| 133813 | 1 | EI COLTON, LLC | NOx |
| 115663 | 1 | EL SEGUNDO POWER, LLC | NOx |
| 800372 | 2 | EQUILON ENTER. LLC, SHELL OIL PROD. US | NOx/SOx |
| 800370 | 1 | EQUILON ENTER., LLC, SHELL OIL PROD. U S | NOx/SOx |
| 117247 | 1 | EQUILON ENTERPRISES, LLC | NOx/SOx |

ANNUAL RECLAIM AUDIT

| Facility ID | Cycle | Facility Name | Market |
|-------------|-------|--|---------|
| 124838 | 1 | EXIDE TECHNOLOGIES | NOx/SOx |
| 25058 | 2 | EXXONMOBIL OIL CORP | NOx |
| 17344 | 1 | EXXONMOBIL OIL CORP | NOx |
| 800089 | 1 | EXXONMOBIL OIL CORPORATION | NOx/SOx |
| 800094 | 1 | EXXONMOBIL OIL CORPORATION | NOx |
| 122295 | 2 | FALCON FOAM, A DIV OF ATLAS ROOFING CORP | NOx |
| 11716 | 1 | FONTANA PAPER MILLS INC | NOx |
| 346 | 1 | FRITO-LAY NORTH AMERICA, INC. | NOx |
| 2418 | 2 | FRUIT GROWERS SUPPLY CO | NOx |
| 5814 | 1 | GAINEY CERAMICS INC | NOx |
| 11016 | 2 | GEORGIA-PACIFIC CORP | NOx |
| 10055 | 2 | G-P GYPSUM CORP | NOx |
| 137471 | 2 | GRIFOLS BIOLOGICALS INC | NOx |
| 40196 | 2 | GUARDIAN INDUSTRIES CORP. | NOx/SOx |
| 861 | 1 | H J HEINZ, L P | NOx |
| 106325 | 2 | HARBOR COGENERATION CO | NOx |
| 45953 | 1 | HAYES LEMMERZ INTERNATIONAL CAL INC | NOx |
| 123774 | 1 | HERAEUS METAL PROCESSING, INC. | NOx |
| 141585 | 1 | HEXION SPECIALTY CHEMICALS, INC. | NOx |
| 15164 | 1 | HIGGINS BRICK CO | NOx |
| 113160 | 2 | HILTON COSTA MESA | NOx |
| 800066 | 1 | HITCO CARBON COMPOSITES INC | NOx |
| 2912 | 2 | HOLLIDAY ROCK CO INC | NOx |
| 800003 | 2 | HONEYWELL INTERNATIONAL INC | NOx |
| 124619 | 1 | IMPRESS USA INC | NOx |
| 123087 | 2 | INDALEX WEST INC | NOx |
| 124808 | 2 | INNOVENE POLYPROPYLENE LLC | NOx/SOx |
| 5830 | 1 | INTERMETRO INDUSTRIES CORP | NOx |
| 23589 | 2 | INTERNATIONAL EXTRUSION CORP | NOx |
| 106810 | 2 | INTERSTATE BRANDS CORP | NOx |
| 22364 | 1 | ITT INDUSTRIES, CANNON | NOx |
| 119134 | 2 | ITW CIP CALIFORNIA | NOx |
| 16338 | 1 | KAISER ALUMINUM & CHEM CORP | NOx |
| 21887 | 2 | KIMBERLY-CLARK WORLDWIDE INC.-FLT N MILL | NOx/SOx |
| 1744 | 2 | KIRK HILL RUBBER CO | NOx |
| 800335 | 2 | LA CITY, DEPT OF AIRPORT | NOx |
| 800170 | 1 | LA CITY, DWP HARBOR GENERATING STATION | NOx |
| 800074 | 1 | LA CITY, DWP HAYNES GENERATING STATION | NOx |
| 800075 | 1 | LA CITY, DWP SCATTERGOOD GENERATING STN | NOx |
| 800193 | 2 | LA CITY, DWP VALLEY GENERATING STATION | NOx |
| 61962 | 1 | LA CITY, HARBOR DEPT | NOx |
| 550 | 1 | LA CO., INTERNAL SERVICE DEPT | NOx |
| 7931 | 1 | LA PAPER BOX & BOARD MILLS | NOx |
| 115277 | 1 | LAFAYETTE TEXTILE IND LLC | NOx |
| 57892 | 2 | LIFE-LIKE PRODUCTS INC. | NOx |
| 83102 | 2 | LIGHT METALS INC | NOx |
| 31046 | 2 | LISTON BRICK COMPANY OF CORONA | NOx |
| 14229 | 2 | LORBER INDUSTRIES OF CALIFORNIA | NOx |
| 17623 | 2 | LOS ANGELES ATHLETIC CLUB | NOx |
| 58622 | 2 | LOS ANGELES COLD STORAGE CO | NOx |
| 125015 | 2 | LOS ANGELES TIMES COMMUNICATIONS LLC | NOx |
| 800080 | 2 | LUNDAY-THAGARD OIL CO | NOx |
| 128243 | 1 | MAGNOLIA POWER PROJECT, SCPPA | NOx |
| 14049 | 2 | MARUCHAN INC | NOx |
| 18865 | 2 | MASTERFOODS USA | NOx |
| 3029 | 2 | MATCHMASTER DYEING & FINISHING INC | NOx |
| 2825 | 1 | MCP FOODS INC | NOx |
| 100844 | 2 | MEDALLION CALIFORNIA PROPERTIES CO | NOx |

ANNUAL RECLAIM AUDIT

| Facility ID | Cycle | Facility Name | Market |
|-------------|-------|--|---------|
| 115563 | 1 | METAL COATERS OF CALIFORNIA | NOx |
| 94872 | 2 | METAL CONTAINER CORP | NOx |
| 141012 | 1 | MILLER BREWERIES WEST LP | NOx |
| 12372 | 1 | MISSION CLAY PRODUCTS | NOx |
| 121737 | 1 | MOUNTAINVIEW POWER COMPANY LLC | NOx |
| 11887 | 2 | NASA JET PROPULSION LAB | NOx |
| 40483 | 2 | NELCO PROD. INC | NOx |
| 12428 | 2 | NEW NGC, INC. | NOx |
| 131732 | 2 | NEWPORT FAB, LLC | NOx |
| 800167 | 2 | NORTHROP GRUMMAN CORP | NOx |
| 18294 | 1 | NORTHROP GRUMMAN CORP, AIRCRAFT DIV | NOx |
| 800408 | 1 | NORTHROP GRUMMAN SPACE & MISSION SYSTEMS | NOx |
| 800409 | 2 | NORTHROP GRUMMAN SPACE & MISSION SYSTEMS | NOx |
| 112853 | 2 | NP COGEN INC | NOx |
| 45471 | 2 | OGLEBAY NORTON INDUSTRIAL SANDS INC | NOx |
| 89248 | 2 | OLD COUNTRY MILLWORK INC | NOx |
| 47781 | 1 | OLS ENERGY-CHINO | NOx |
| 35302 | 2 | OWENS CORNING | NOx/SOx |
| 7427 | 1 | OWENS-BROCKWAY GLASS CONTAINER INC | NOx/SOx |
| 45746 | 2 | PABCO BLDG PRODUCTS LLC,PABCO PAPER, DBA | NOx/SOx |
| 17953 | 1 | PACIFIC CLAY PRODUCTS INC | NOx |
| 59618 | 1 | PACIFIC CONTINENTAL TEXTILES, INC. | NOx |
| 60531 | 2 | PACIFIC FABRIC FINISHING | NOx |
| 2946 | 1 | PACIFIC FORGE INC | NOx |
| 800417 | 2 | PACIFIC TERMINALS LLC | NOx |
| 800208 | 2 | PAPER PAK PROD. INC | NOx |
| 130211 | 2 | PAPER-PAK INDUSTRIES | NOx |
| 89429 | 2 | PARADISE TEXTILE CO | NOx |
| 800183 | 1 | PARAMOUNT PETR CORP (EIS USE) | NOx/SOx |
| 800168 | 1 | PASADENA CITY, DWP (EIS USE) | NOx |
| 119920 | 1 | PECHINEY CAST PLATE INC | NOx |
| 142187 | 1 | PLAINS EXPLORATION & PRODUCTION CO | NOx |
| 133987 | 1 | PLAINS EXPLORATION & PRODUCTION CO, LP | NOx |
| 133996 | 2 | PLAINS EXPLORATION & PRODUCTION COMPANY | NOx |
| 115449 | 1 | PLAYA PHASE I COMMERCIAL LAND, LLC | NOx |
| 7416 | 1 | PRAXAIR INC | NOx |
| 42630 | 1 | PRAXAIR INC | NOx |
| 133046 | 1 | PRECISION SPECIALTY METALS INC | NOx |
| 136 | 2 | PRESS FORGE CO | NOx |
| 132191 | 1 | PUREENERGY OPERATING SERVICES, LLC | NOx |
| 132192 | 1 | PUREENERGY OPERATING SERVICES, LLC | NOx |
| 8547 | 1 | QUEMETCO INC | NOx/SOx |
| 19167 | 2 | R J NOBLE COMPANY | NOx |
| 3585 | 2 | R. R. DONNELLEY & SONS CO, LA MFG DIV | NOx |
| 20604 | 2 | RALPHS GROCERY CO | NOx |
| 115041 | 1 | RAYTHEON COMPANY | NOx |
| 114997 | 1 | RAYTHEON COMPANY | NOx |
| 115172 | 2 | RAYTHEON COMPANY | NOx |
| 800371 | 2 | RAYTHEON SYSTEMS COMPANY - FULLERTON OPS | NOx |
| 20543 | 1 | REDCO II | NOx |
| 15544 | 2 | REICHHOLD INC | NOx |
| 115315 | 1 | RELIANT ENERGY ETIWANDA, INC. | NOx |
| 52517 | 1 | REXAM PLC, REXAM BEVERAGE CAN COMPANY | NOx |
| 114801 | 1 | RHODIA INC. | NOx/SOx |
| 61722 | 2 | RICOH ELECTRONICS INC | NOx |
| 139010 | 2 | RIPON COGENERATION LLC | NOx |
| 800182 | 1 | RIVERSIDE CEMENT CO (EIS USE) | NOx/SOx |
| 98812 | 2 | RMS FOUNDATION INC | NOx |

ANNUAL RECLAIM AUDIT

| Facility ID | Cycle | Facility Name | Market |
|-------------|-------|--|---------|
| 800113 | 2 | ROHR,INC | NOx |
| 18455 | 2 | ROYALTY CARPET MILLS INC | NOx |
| 93073 | 1 | SABA PETROLEUM INC | NOx |
| 108701 | 1 | SAINT-GOBAIN CONTAINERS, INC. | NOx/SOx |
| 4242 | 2 | SAN DIEGO GAS & ELECTRIC | NOx |
| 15504 | 2 | SCHLOSSER FORGE CO | NOx |
| 20203 | 2 | SCOPE PRODUCTS INC, DEXT CO | NOx |
| 14926 | 1 | SEMPRA ENERGY (THE GAS CO) | NOx |
| 9217 | 1 | SEMPRA ENERGY SOLUTIONS/CENTRAL PLANTS | NOx |
| 11034 | 2 | SEMPRA ENERGY SOLUTIONS/CENTRAL PLANTS | NOx |
| 16575 | 1 | SEMPRA ENERGY SOLUTIONS/CENTRAL PLANTS | NOx |
| 9053 | 1 | SEMPRA ENERGY SOLUTIONS/CENTRAL PLANTS | NOx |
| 37603 | 1 | SGL TECHNIC INC, POLYCARBON DIVISION | NOx |
| 131850 | 2 | SHAW DIVERSIFIED SERVICES | NOx |
| 117227 | 2 | SHCI SM BCH HOTEL LLC, LOEWS SM BCH HOTE | NOx |
| 16639 | 1 | SHULTZ STEEL CO | NOx |
| 54402 | 2 | SIERRA ALUMINUM COMPANY | NOx |
| 85943 | 2 | SIERRA ALUMINUM COMPANY | NOx |
| 101977 | 1 | SIGNAL HILL PETROLEUM INC | NOx |
| 82727 | 2 | SMURFIT NEWSPRINT CORPORATION | NOx |
| 22373 | 1 | SMURFIT-STONE CONTAINER ENTERPRISES, INC | NOx |
| 43201 | 2 | SNOW SUMMIT INC | NOx |
| 4477 | 1 | SO CAL EDISON CO | NOx |
| 18763 | 1 | SO CAL EDISON CO | NOx |
| 800124 | 2 | SO CAL EDISON CO | NOx |
| 800125 | 1 | SO CAL EDISON CO | NOx |
| 800126 | 2 | SO CAL EDISON CO | NOx |
| 5973 | 1 | SO CAL GAS CO | NOx |
| 800127 | 1 | SO CAL GAS CO (EIS USE) | NOx |
| 800128 | 1 | SO CAL GAS CO (EIS USE) | NOx |
| 8582 | 1 | SO CAL GAS CO/PLAYA DEL REY STORAGE FACI | NOx |
| 9114 | 1 | SOMITEX PRINTS OF CAL INC | NOx |
| 14871 | 2 | SONOCO PRODUCTS CO | NOx |
| 103618 | 1 | SPECIALTY BRANDS INC | NOx |
| 800338 | 2 | SPECIALTY PAPER MILLS INC | NOx |
| 131824 | 2 | STEELCASE, INC. | NOx |
| 126498 | 2 | STEELSCAPE, INC | NOx |
| 34055 | 2 | SULLY MILLER CONTRACTING CO | NOx |
| 105277 | 2 | SULLY MILLER CONTRACTING CO | NOx |
| 19390 | 1 | SULLY-MILLER CONTRACTING CO. | NOx |
| 23196 | 2 | SUNKIST GROWERS, INC | NOx |
| 2083 | 1 | SUPERIOR INDUSTRIES INTERNATIONAL INC | NOx |
| 3968 | 1 | TABC, INC | NOx |
| 18931 | 2 | TAMCO | NOx |
| 14944 | 1 | TECHALLOY CO., INC. | NOx/SOx |
| 96587 | 1 | TEXOLLINI INC | NOx |
| 4451 | 1 | TEXTRON FASTENING SYSTEMS SANTA ANA OPER | NOx |
| 14736 | 2 | THE BOEING COMPANY | NOx |
| 800259 | 1 | THE BOEING COMPANY | NOx |
| 800110 | 2 | THE BOEING COMPANY | NOx |
| 11119 | 1 | THE GAS CO./ SEMPRA ENERGY | NOx |
| 11435 | 2 | THE PQ CORP | NOx/SOx |
| 97081 | 1 | THE TERMO COMPANY | NOx |
| 800330 | 1 | THUMS LONG BEACH | NOx |
| 129497 | 1 | THUMS LONG BEACH CO | NOx |
| 800325 | 2 | TIDELANDS OIL PRODUCTION CO | NOx |
| 68118 | 2 | TIDELANDS OIL PRODUCTION COMPANY ETAL | NOx |
| 800240 | 2 | TIN, INC. TEMPLE-INLAND, DBA | NOx |

ANNUAL RECLAIM AUDIT

| Facility ID | Cycle | Facility Name | Market |
|-------------|-------|--|---------|
| 137508 | 2 | TONOGA INC, TACONIC DBA | NOx |
| 53729 | 1 | TREND OFFSET PRINTING SERVICES, INC | NOx |
| 11674 | 1 | TRI-ALLOY INC | NOx |
| 43436 | 1 | TST, INC. | NOx |
| 800026 | 1 | ULTRAMAR INC (NSR USE ONLY) | NOx/SOx |
| 118618 | 2 | UNI-PRESIDENT (U.S.A.) INC | NOx |
| 9755 | 2 | UNITED AIRLINES INC | NOx |
| 60342 | 2 | UNITED STATES CAN CO | NOx |
| 800258 | 1 | UNOCAL CORP., HARTLEY CENTER | NOx |
| 73022 | 2 | US AIRWAYS INC | NOx |
| 800149 | 2 | US BORAX INC | NOx |
| 800150 | 1 | US GOVT, AF DEPT, MARCH AIR RESERVE BASE | NOx |
| 12185 | 2 | US GYPSUM CO | NOx/SOx |
| 18695 | 1 | US GYPSUM CO | NOx |
| 1073 | 1 | US TILE CO | NOx |
| 83738 | 1 | USDF | NOx |
| 800393 | 1 | VALERO WILMINGTON ASPHALT PLANT | NOx |
| 111415 | 2 | VAN CAN COMPANY | NOx |
| 14502 | 2 | VERNON CITY, LIGHT & POWER DEPT | NOx |
| 115130 | 1 | VERTIS, INC | NOx |
| 101369 | 2 | VINTAGE PETROLEUM INC | NOx |
| 122012 | 2 | VINTAGE PETROLEUM, INC DEL VALLE OIL FLD | NOx |
| 14495 | 2 | VISTA METALS CORPORATION | NOx |
| 126501 | 2 | VOUGHT AIRCRAFT INDUSTRIES | NOx |
| 143261 | 1 | WELLHEAD POWER COLTON LLC | NOx |
| 42775 | 1 | WEST NEWPORT OIL CO | NOx/SOx |
| 17956 | 1 | WESTERN METAL DECORATING CO | NOx |
| 1962 | 2 | WEYERHAEUSER COMPANY | NOx |
| 51620 | 1 | WHEELABRATOR NORWALK ENERGY CO INC | NOx |
| 127299 | 2 | WILDFLOWER ENERGY LP/INDIGO ENERGY FAC | NOx |
| 129238 | 1 | XYRON INC | NOx |

APPENDIX B FACILITY INCLUSIONS

As discussed in Chapter 1, two facilities were added to the NOx market of the RECLAIM universe for the 2004 compliance year.

| Facility ID | Cycle | Facility Name | Market | Date | Reason |
|-------------|-------|---|--------|-----------|-----------------------------|
| 139796 | 1 | CITY OF RIVERSIDE PUBLIC UTILITIES DEPT | NOx | 4/29/2005 | Opt-in at facility request. |
| 143261 | 1 | WELLHEAD POWER COLTON LLC | NOx | 6/24/2005 | Opt-in at facility request. |

APPENDIX C
RECLAIM FACILITIES CEASING OPERATION OR EXCLUDED

AQMD staff is aware of the following RECLAIM facilities that permanently shut down all operations or inactivated their RECLAIM permits during the 2004 compliance year. The reasons for shutdown cited below are based on AQMD staff's best available information.

| | |
|---------------------|---|
| Facility ID | 1634 |
| Facility Name | Steelcase Inc, Western Div. |
| City and County | Tustin, Orange County |
| SIC | 2522 |
| Pollutants | NOx |
| 1994 Allocation | 24,608 |
| Reason for Shutdown | Facility ID# was inactivated because all equipment has been moved to ID# 131824. This represents a change in location, but both ID #s were active in the 2003 compliance year because the move was still in progress. |

| | |
|---------------------|---|
| Facility ID | 3950 |
| Facility Name | Crown Cork & Seal Co Inc. |
| City and County | La Mirada, Los Angeles County |
| SIC | 3411 |
| Pollutants | NOx |
| 1994 Allocation | 17,500 |
| Reason for Shutdown | Facility closed 10/31/04. According to the APEP, production was moved to plants in other states. A company representative told AQMD staff that the plant was not profitable, and that RECLAIM was not a deciding factor in the closure. |

| | |
|---------------------|---|
| Facility ID | 12912 |
| Facility Name | Libbey Glass Inc. |
| City and County | City Of Industry, Los Angeles County |
| SIC | 3229 |
| Pollutants | NOx, SOx |
| 1994 Allocation | 30,1131 (NOx), 110,487 (SOx) |
| Reason for Shutdown | Facility closed 2/15/05. Production was moved to plants in other states. A company representative stated that needed equipment upgrades were not cost-effective. While the cost of PM control equipment was a factor, the RECLAIM program did not play a role in the decision to consolidate. |

ANNUAL RECLAIM AUDIT

Facility ID 16531
Facility Name Neville Chem Co.
City and County Anaheim, Orange County
SIC 2821
Pollutants NOx
1994 Allocation 5,914
Reason for Shutdown The facility shut down 4/22/05 due to decreased demand for product and increased costs of production.

Facility ID 18648
Facility Name Crown City Plating Co.
City and County El Monte, Los Angeles County
SIC 3471
Pollutants NOx
1994 Allocation 15,613
Reason for Shutdown The plant closed 9/1/04. The company cited decreased demand for product and increased cost of raw materials and manufacturing as the reasons.

Facility ID 55758
Facility Name Tissurama Industries Inc.
City and County Los Angeles, Los Angeles County
SIC 2299
Pollutants NOx
1994 Allocation 25,280
Reason for Shutdown The plant closed 10/1/04. No APEP was submitted. The AQMD inspector reported the company out of business. Company representatives could not be contacted. The inspector stated that the company had benefited from RECLAIM by selling RTCs.

Facility ID 56427
Facility Name Tandem Industries
City and County Fontana, San Bernardino County
SIC 3341
Pollutants NOx
1994 Allocation 14,188
Reason for Shutdown The facility did not shut down, but the Facility ID# was merged with ID# 43436 because the two facilities were found to operate on contiguous properties under common ownership.

ANNUAL RECLAIM AUDIT

Facility ID 68122
Facility Name Tidelands Oil Production Company ETA
City and County Long Beach, Los Angeles County
SIC 1311
Pollutants NOx
1994 Allocation 354,874
Reason for Shutdown The facility was closed 6/30/05. The company decided not to electrify 6 ICEs driving water injection pumps on this site as required by their Rule 1110.2 compliance plan. Instead, they installed one large ICE on a nearby site (ID# 136965) so that they could continue to use excess produced natural gas and avoid unnecessary flaring.

Facility ID 100130
Facility Name Artesia Sawdust Products, Inc.
City and County Ontario, San Bernardino County
SIC 2499
Pollutants NOx
1994 Allocation 0
Reason for Shutdown Permits were cancelled in April 2001 because all equipment was exempt from permit requirement under Rule 219. The facility remained in the RECLAIM universe in past annual reports.

Facility ID 106797
Facility Name Saint-Gobain Containers LLC
City and County Los Angeles, Los Angeles County
SIC 3221
Pollutants NOx, SOx
1994 Allocation 557,905 (NOx), 361,136 (SOx)
Reason for Shutdown The facility closed 9/15/04. The primary reasons were decreased demand for product and increased cost of raw materials. They indicated that the costs of low-NOx equipment and CEMS maintenance reduced the profit margin of the plant, but were not deciding factors.

Facility ID 115314
Facility Name Long Beach Generation LLC
City and County Long Beach, Los Angeles County
SIC 4911
Pollutants NOx
1994 Allocation 494137
Reason for Shutdown SCE contract for power generation expired and was not renewed. The plant was shut down on 12/31/04.

ANNUAL RECLAIM AUDIT

Facility ID 117485
Facility Name Port Of Long Beach
City and County Long Beach, Los Angeles County
SIC 9999
Pollutants NOx
1994 Allocation 207,094
Reason for Shutdown The Long Beach Naval Shipyard closed in 1997, but one ICE remained on site until 10/04. The equipment has not operated since 1998, but the permit remained active.

Facility ID 132626
Facility Name Kraft Foods North America/Nabisco Div.
City and County Buena Park, Orange County
SIC 2052
Pollutants NOx
1994 Allocation 10,676
Reason for Shutdown Production was moved to other plants outside AQMD due to reduced demand for products. The facility closed 3/31/05.

Facility ID 800224
Facility Name So Cal Edison Co.
City and County Etiwanda, San Bernardino County
SIC 4911
Pollutants NOx
1994 Allocation 1,246,300
Reason for Shutdown This facility was originally a power generating plant. The power generating operation was sold in 1998 to Reliant Energy. At the time of this transfer, all the RECLAIM Trading Credits were also transferred to Reliant Energy. So Cal Edison retained the fuel storage equipment. The permits for the facility have seen been inactivated. The property is now owned by Pacific Terminals, with no active permits.

Facility ID 800391
Facility Name American Airlines, Inc
City and County Los Angeles, Los Angeles County
SIC 4581
Pollutants NOx
1994 Allocation 58,524
Reason for Shutdown This Facility ID was merged with ID# 800196. The original owner, TWA, went into bankruptcy and was bought by American Airlines. Eventually, the two companies merged into one.

APPENDIX D FACILITIES THAT WERE UNABLE TO RECONCILE EMISSIONS FOR COMPLIANCE YEAR 2004

The following is a list of facilities that were determined to have not reconciled their allocations with their NOx and/or SOx emissions in Compliance Year 2004 based on emissions reported under QCERs, the APEP report filed by the facility or completed audits conducted by AQMD staff. This list is being maintained and updated as audits are completed. The updated list is available by contacting the RECLAIM Administration Team at 21865 Copley Drive, Diamond Bar, CA 91765, (909) 396-3119.

Facilities That Failed to Reconcile NOx Emissions with Their Allocations

AERA Energy LLC (ID# 104012)
California Drop Forge, Inc (ID# 138568)
CALMAT Co (ID# 107653)
ConocoPhillips Company (ID# 800362)
DIRECTV (ID# 125579)
Light Metals Inc (ID# 83102)
Metal Container Corp (ID# 94872)
Pacific Terminals, LLC (ID# 800416)
Praxair Inc (ID# 42630)
Raytheon Company (ID# 114997)
Raytheon Company (ID# 115041)
Texollini Inc (ID# 96587)
Xyron Inc (ID# 129238)

APPENDIX E

JOB IMPACTS ATTRIBUTED TO RECLAIM

The APEP report provides RECLAIM facility operators an opportunity to assess the impact of the program on jobs during each compliance year. Facilities are asked to report any job increases and/or decreases, and to evaluate the extent to which any change in employment numbers is attributable to the RECLAIM program.

The detailed information for facilities that reported job gains and losses in their APEP forms for Compliance Year 2004 is summarized below:

Facilities with actual job gains or losses attributed to RECLAIM:

| | |
|-----------------|--|
| Facility ID | 2083 |
| Facility Name | Superior Industries International Inc. |
| City and County | Van Nuys, Los Angeles County |
| SIC | 3714 |
| Pollutant(s) | NOx |
| Cycle | 1 |
| Job Gain | 0 |
| Job Loss | 25 |
| Comments | The facility reported in their APEP report "some operations moved to other U.S. and Mexico plants due to compliance issues". When contacted by AQMD staff, a company representative stated that they were unable to carry out a proposed expansion because of the reduction of their future NOx Allocation following the January 2005 RECLAIM rule amendments. Their decision to move some production to plants outside California was also due to other regulatory and economic issues. The estimated the actual job loss due to RECLAIM at 20, but they reported 25 on the APEP because they were including prospective jobs that might have been added if they were able to expand. |
| Facility ID | 14495 |
| Facility Name | Vista Metals Corporation |
| City and County | Fontana, San Bernardino County |
| SIC | 3341 |
| Pollutant(s) | NOx |
| Cycle | 2 |
| Job Gain | not specified |
| Job Loss | 0 |
| Comments | Compliance with monitoring and recordkeeping requirements increases workload. The company estimates that the added work load is equivalent to one part-time job, but they have not added any staff specifically for RECLAIM work. |

ANNUAL RECLAIM AUDIT

Facility ID 106797
Facility Name Saint-Gobain Containers LLC
City and County Los Angeles, Los Angeles County
SIC 3221
Pollutant(s) NOx/SOx
Cycle 1
Job Gain 0
Job Loss Not specified
Comments The company reported that the facility was closed due to poor sales and high operating costs, including the costs of regulatory compliance. They did not identify RECLAIM as a primary reason for closing. Some of the compliance costs would have been incurred without RECLAIM.

Facility ID 129238
Facility Name Xyron Inc.
City and County Garden Grove, Orange County
SIC 3842
Pollutant(s) NOx
Cycle 1
Job Gain 0
Job Loss 1
Comments "increased the production cost"

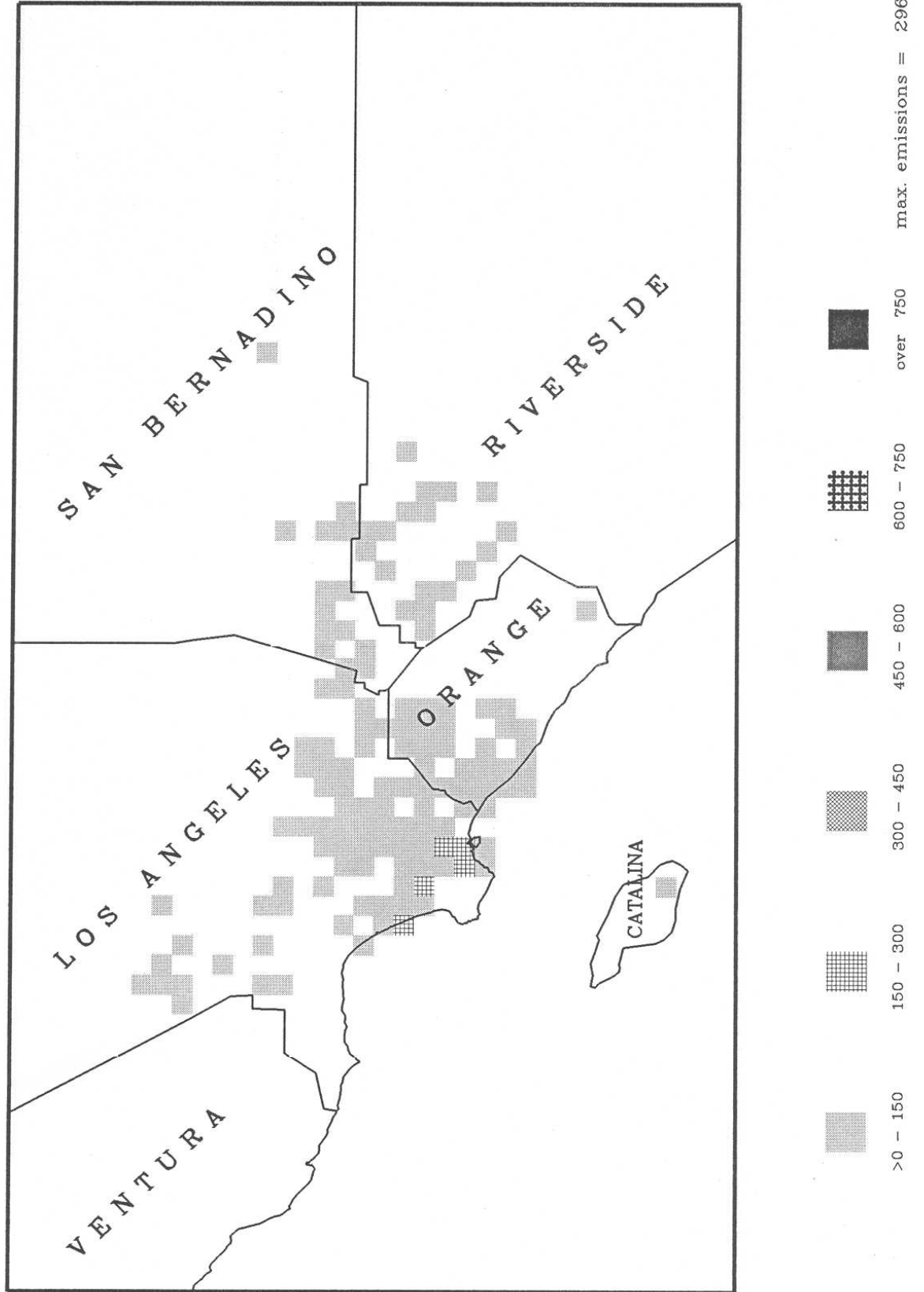
Facility ID 800074
Facility Name LA City, DWP Hayes Generating Station
City and County Long Beach, Los Angeles County
SIC 4911
Pollutant(s) NOx
Cycle 1
Job Gain 3
Job Loss 0
Comments "maintenance of CEMS system, increased monitoring & reporting, scheduling of approved testing contractors, facility liaison for site inspections"

Facility ID 800089
Facility Name ExxonMobil Oil Corporation
City and County Torrance, Los Angeles County
SIC 2911
Pollutant(s) NOx/SOx
Cycle 1
Job Gain 1
Job Loss 0
Comments "RECLAIM required increased day to day data review"

APPENDIX F
QUARTERLY NOX EMISSION MAPS

RECLAIM Facilities

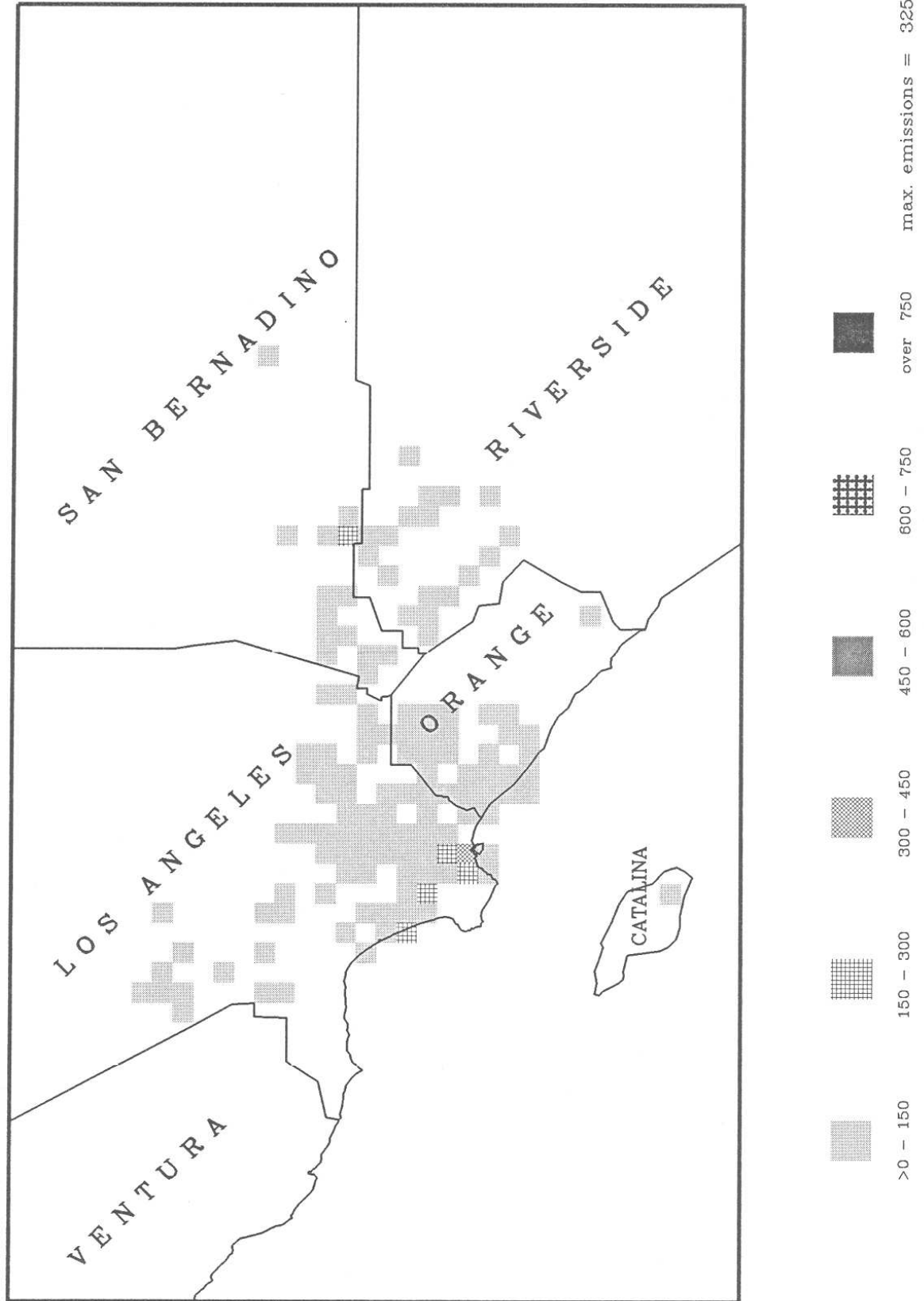
Certified NOx Emissions (Tons) from 01/2004 to 03/2004



Generated on 1/24/06

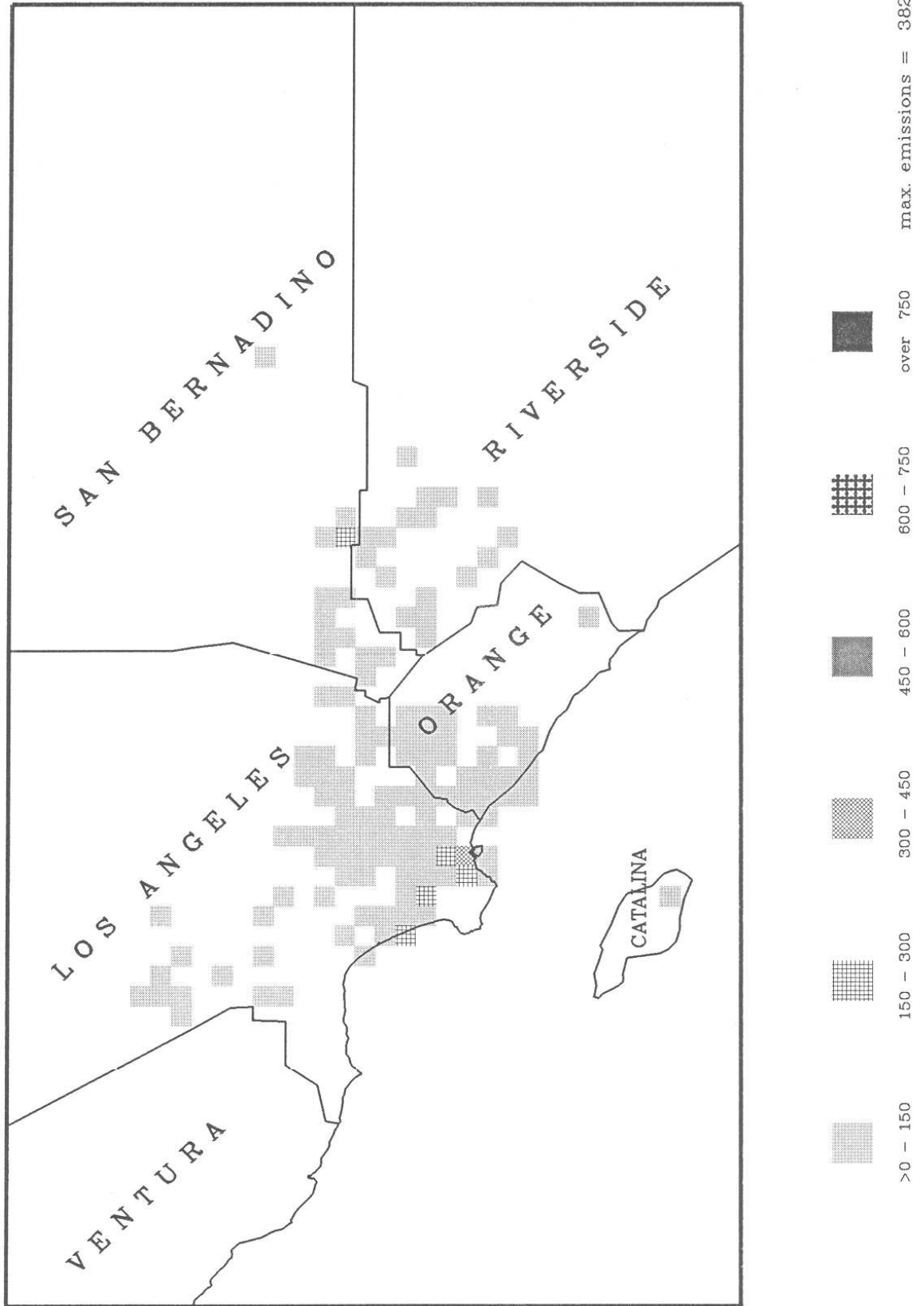
RECLAIM Facilities

Certified NOx Emissions (Tons) from 04/2004 to 06/2004



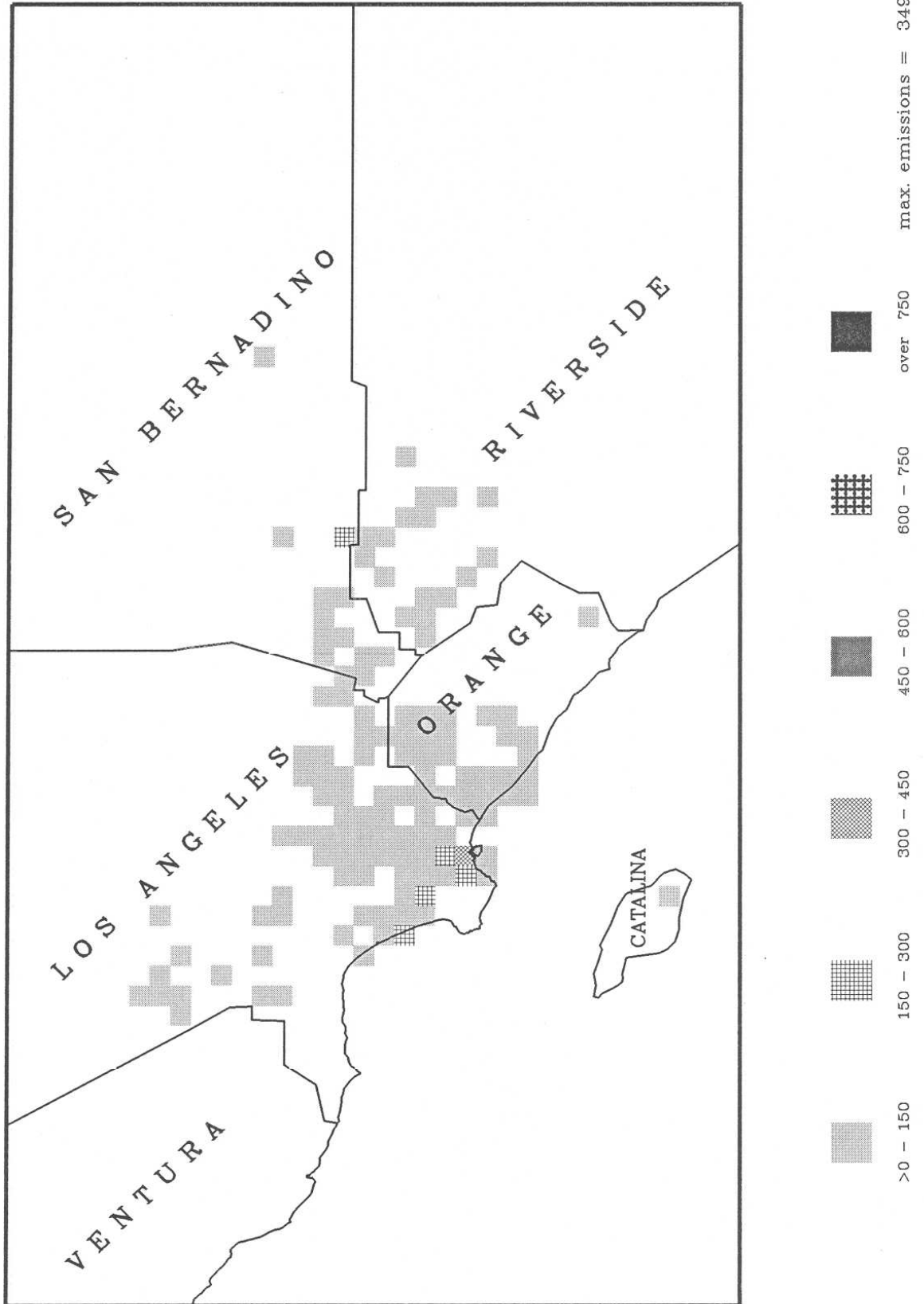
RECLAIM Facilities

Certified NOx Emissions (Tons) from 07/2004 to 09/2004



RECLAIM Facilities

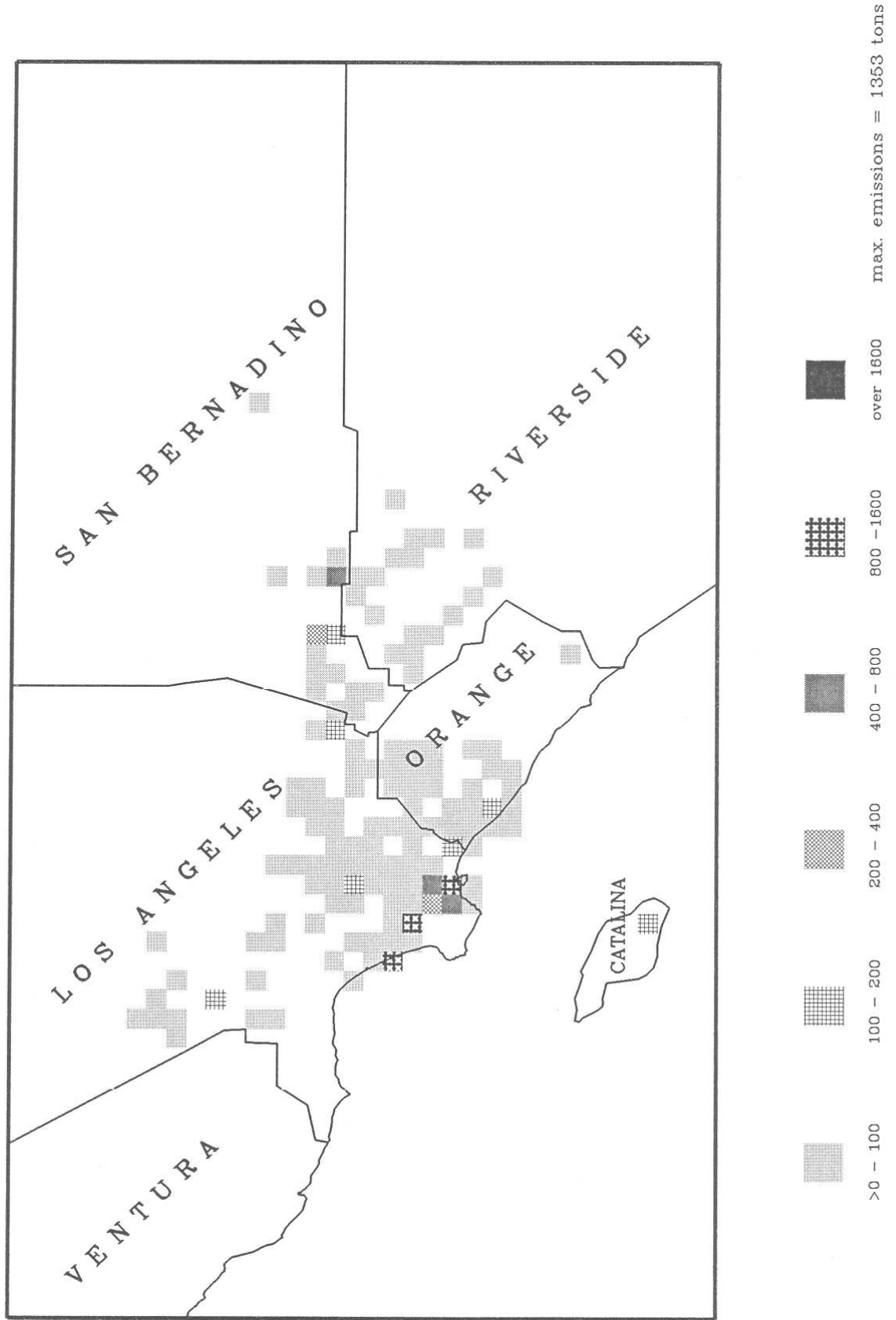
Certified NOx Emissions (Tons) from 10/2004 to 12/2004



Generated on 1/24/ 6

RECLAIM Facilities

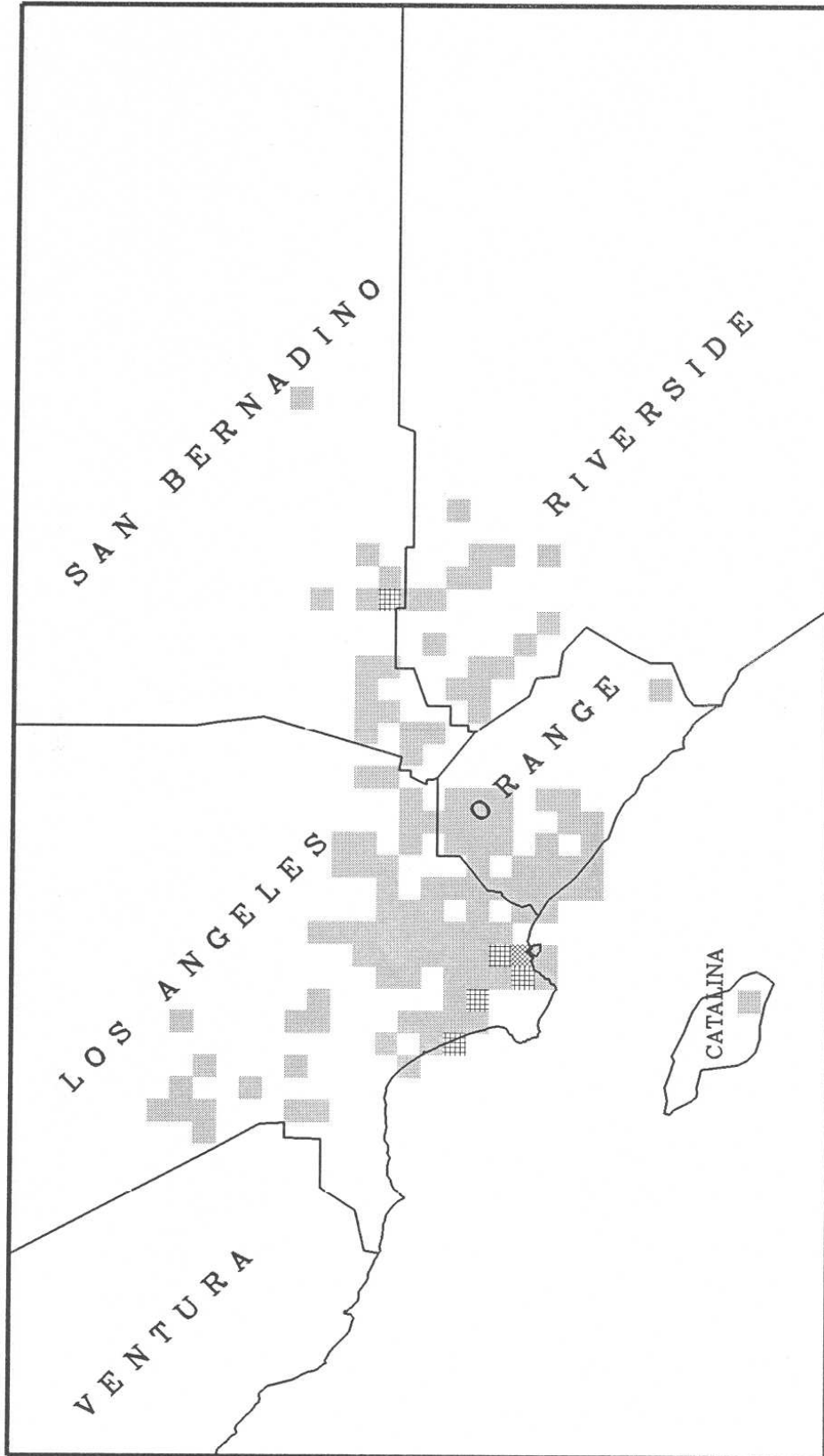
Certified NOx Emissions (Tons) Year to date (12/31/2004)



Generated on 1/24/ 6

RECLAIM Facilities

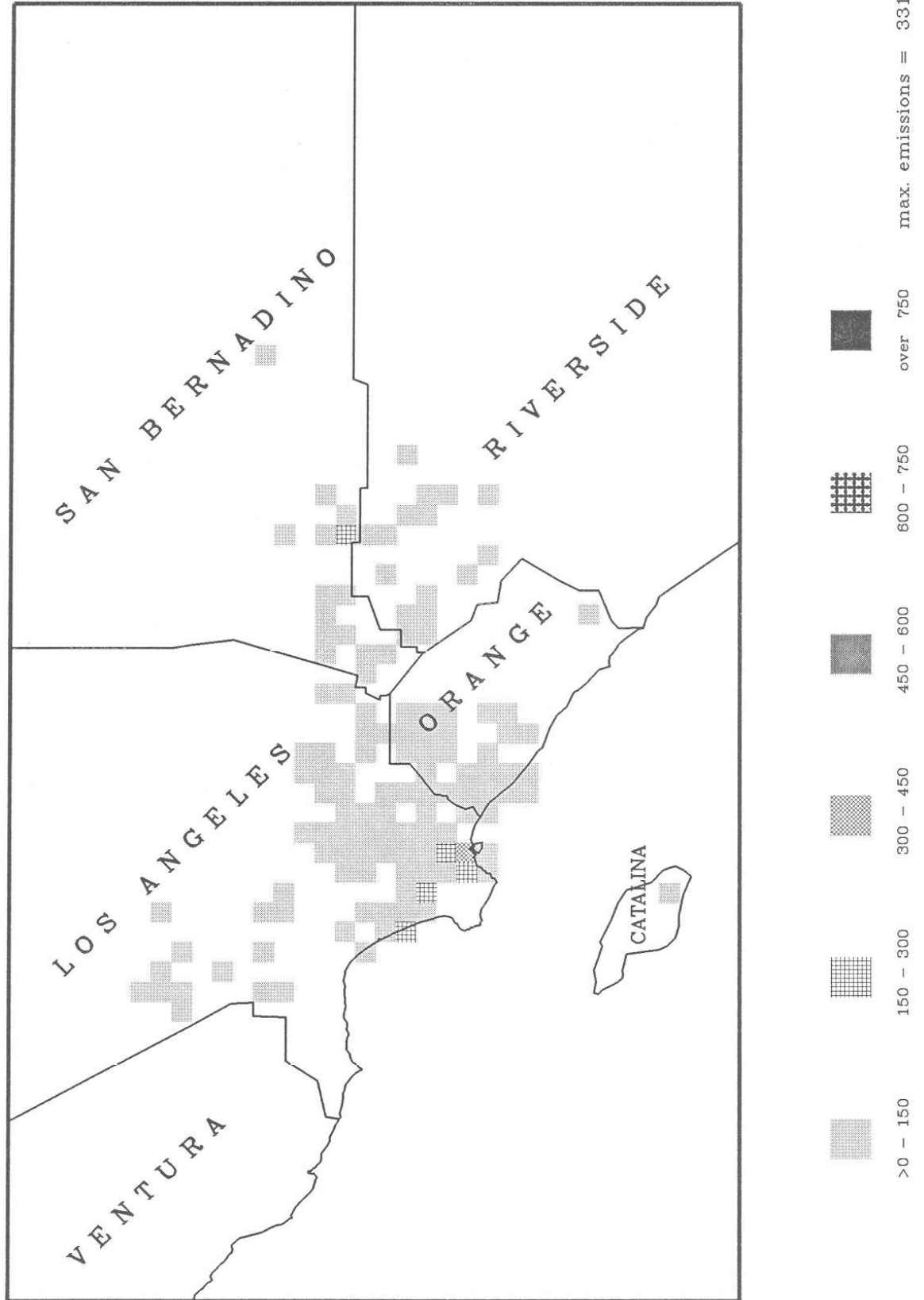
Certified NOx Emissions (Tons) from 01/2005 to 03/2005



Generated on 1/24/ 6

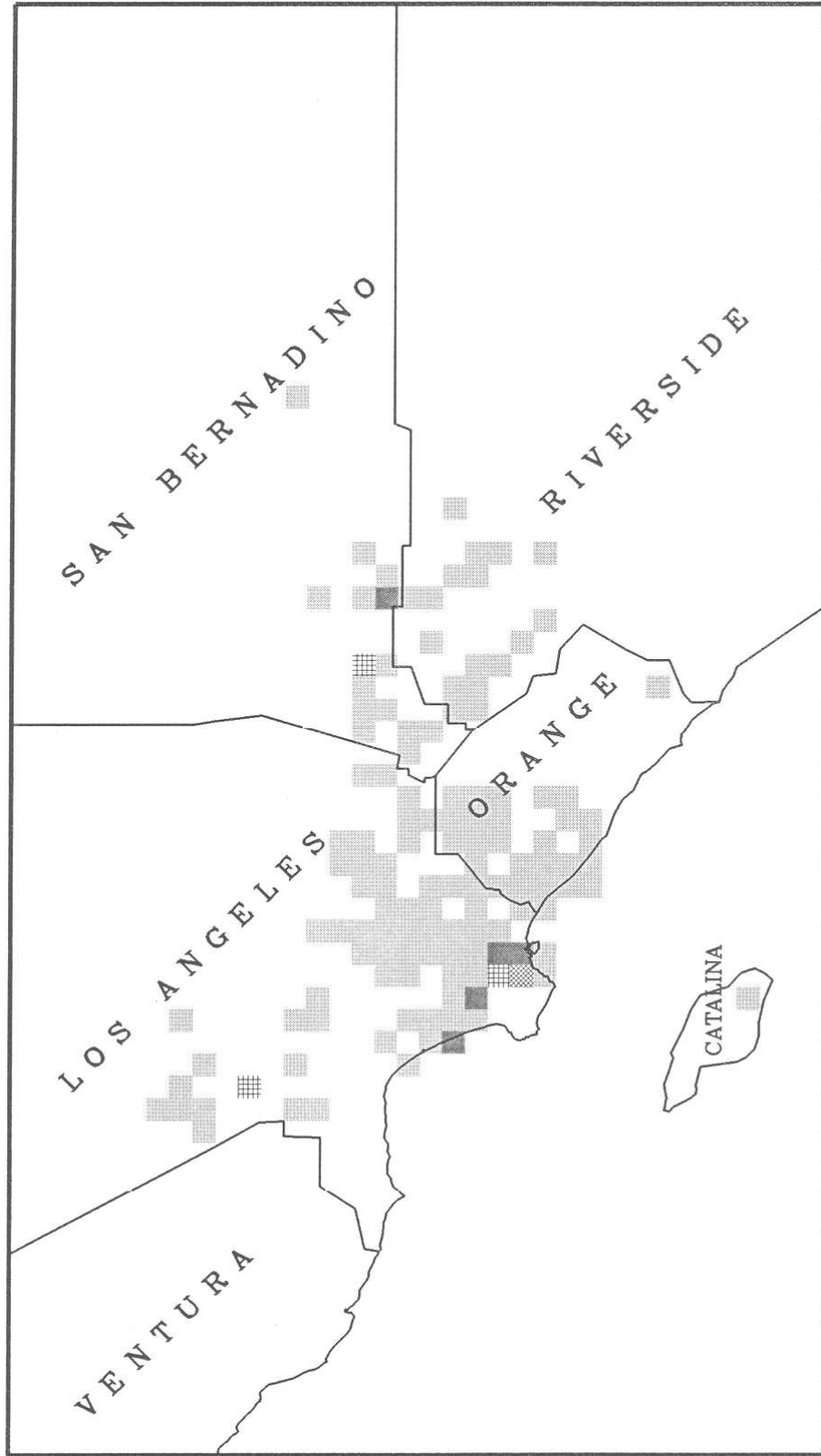
RECLAIM Facilities

Certified NOx Emissions (Tons) from 04/2005 to 06/2005



RECLAIM Facilities

Certified NOx Emissions (Tons) Year to date (06/30/2005)

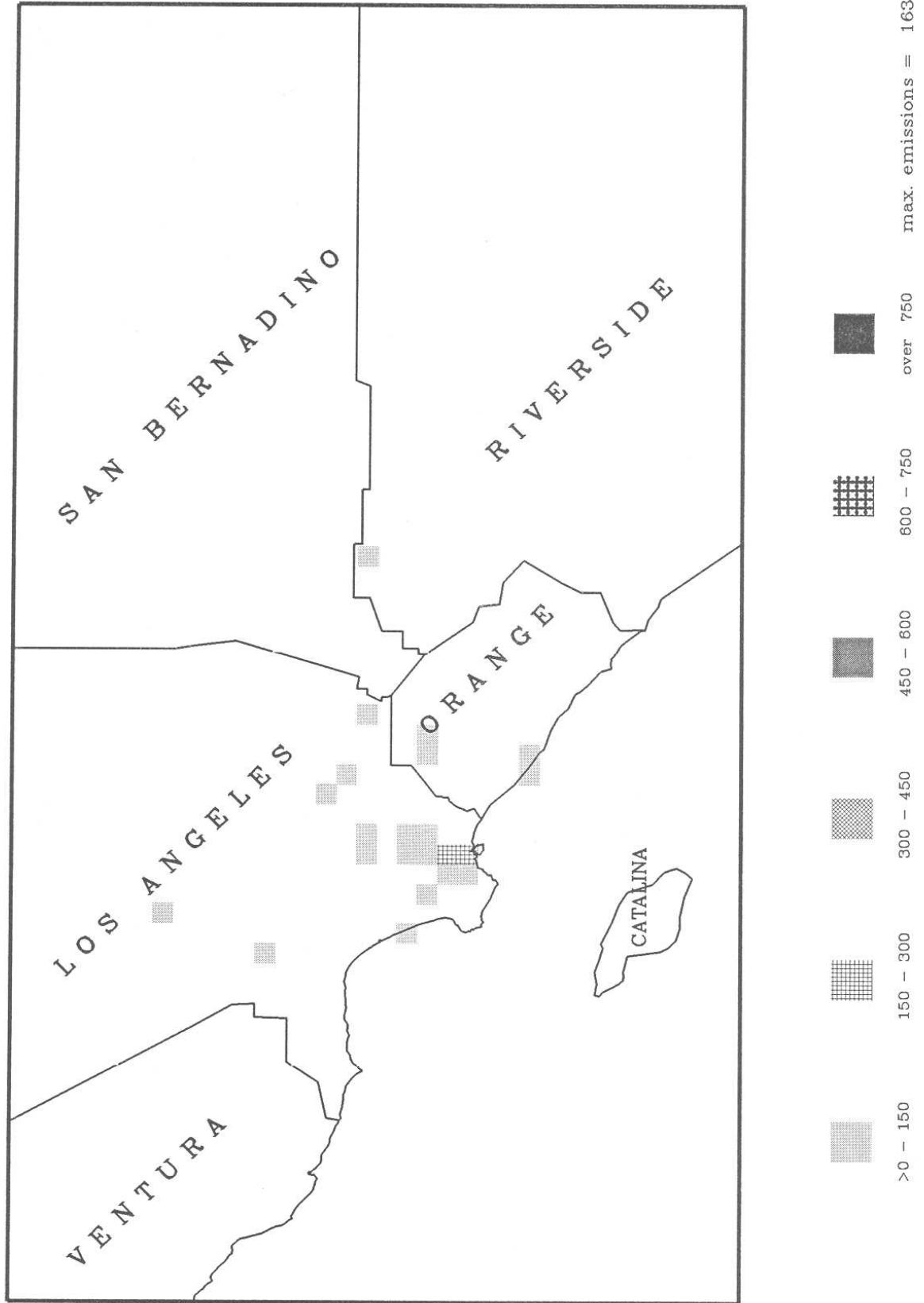


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APPENDIX G
QUARTERLY SOX EMISSION MAPS

RECLAIM Facilities

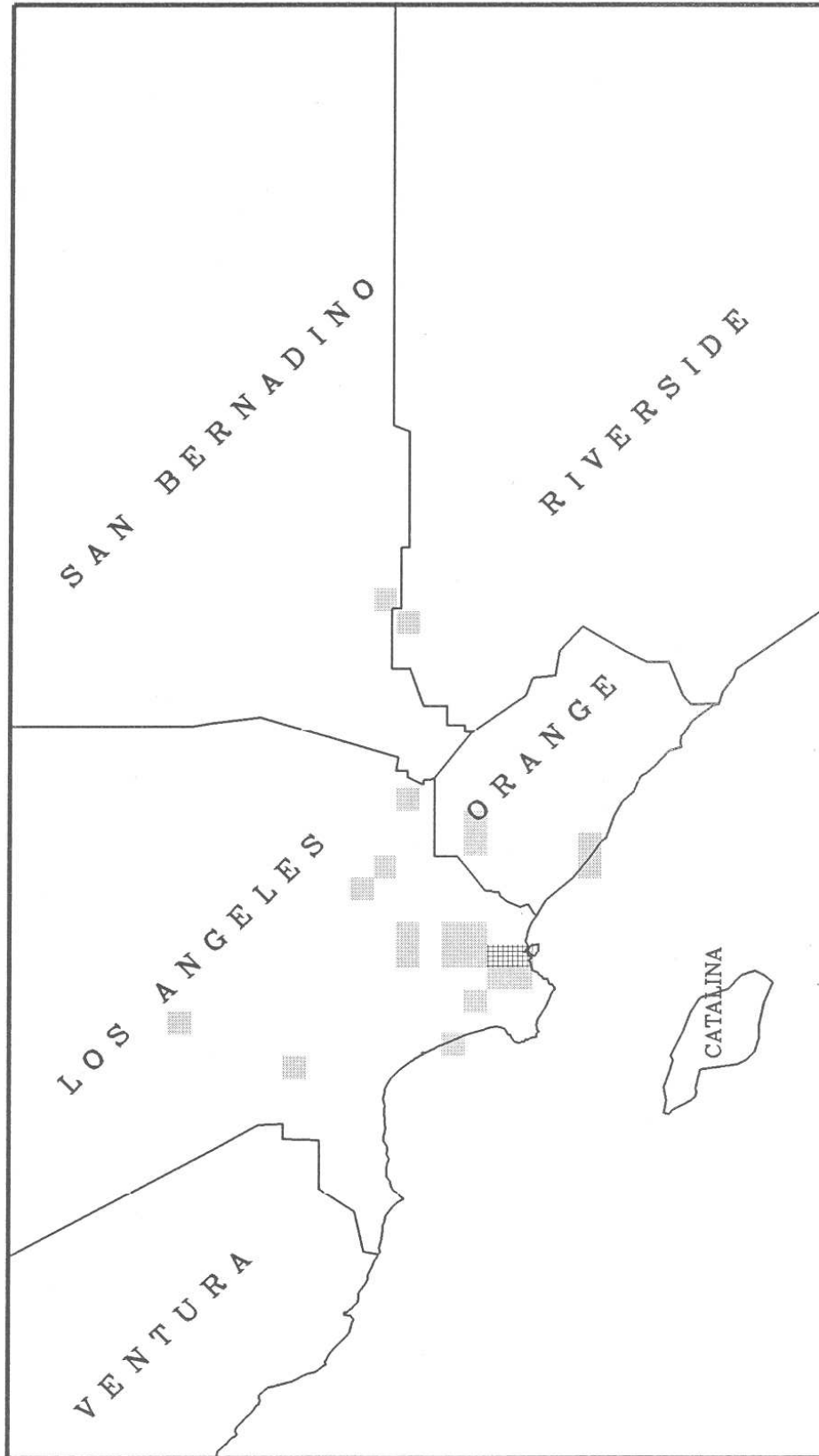
Certified SOx Emissions (Tons) from 01/2004 to 03/2004



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RECLAIM Facilities

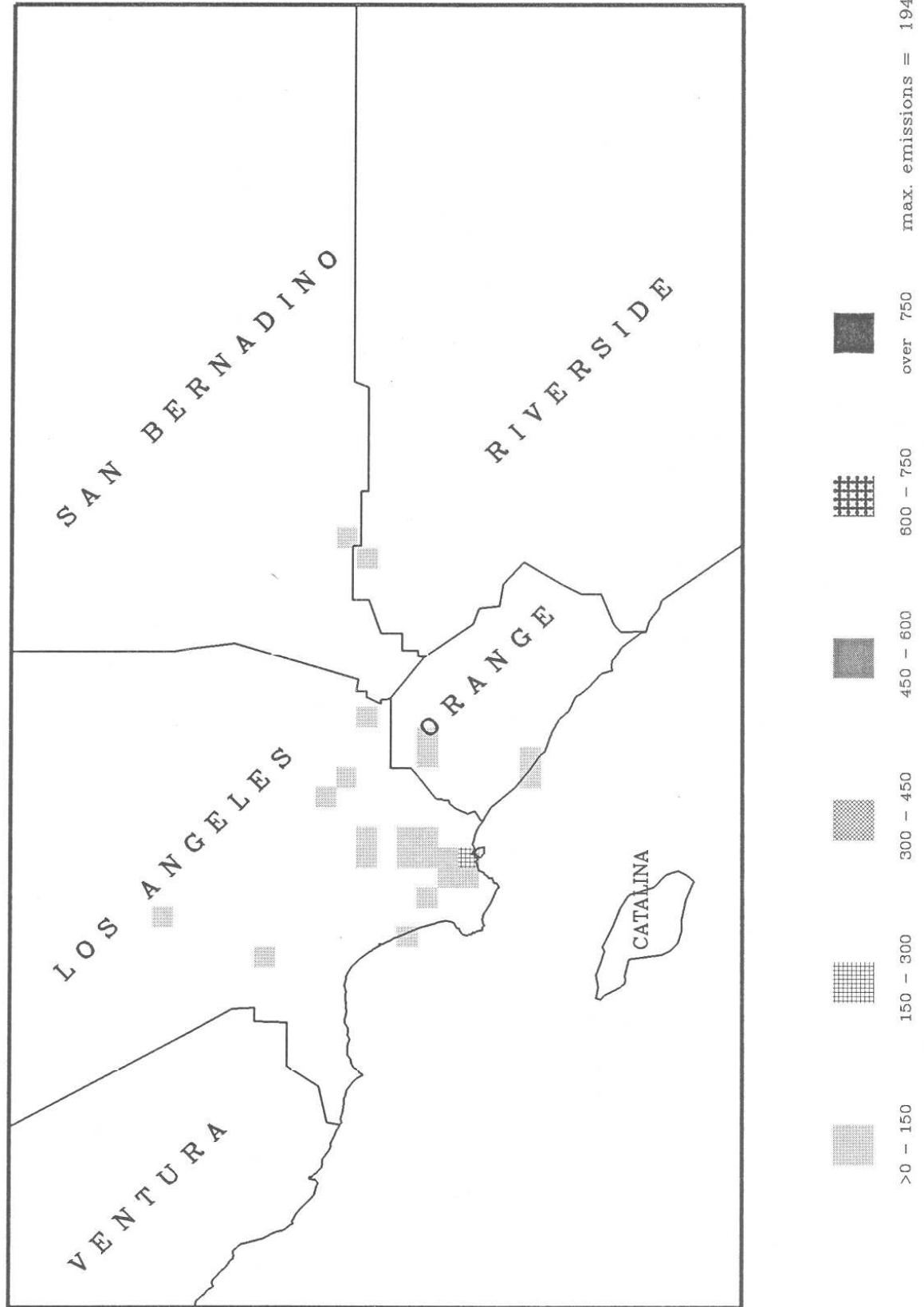
Certified SOx Emissions (Tons) from 04/2004 to 06/2004



Generated on 1/24/ 6

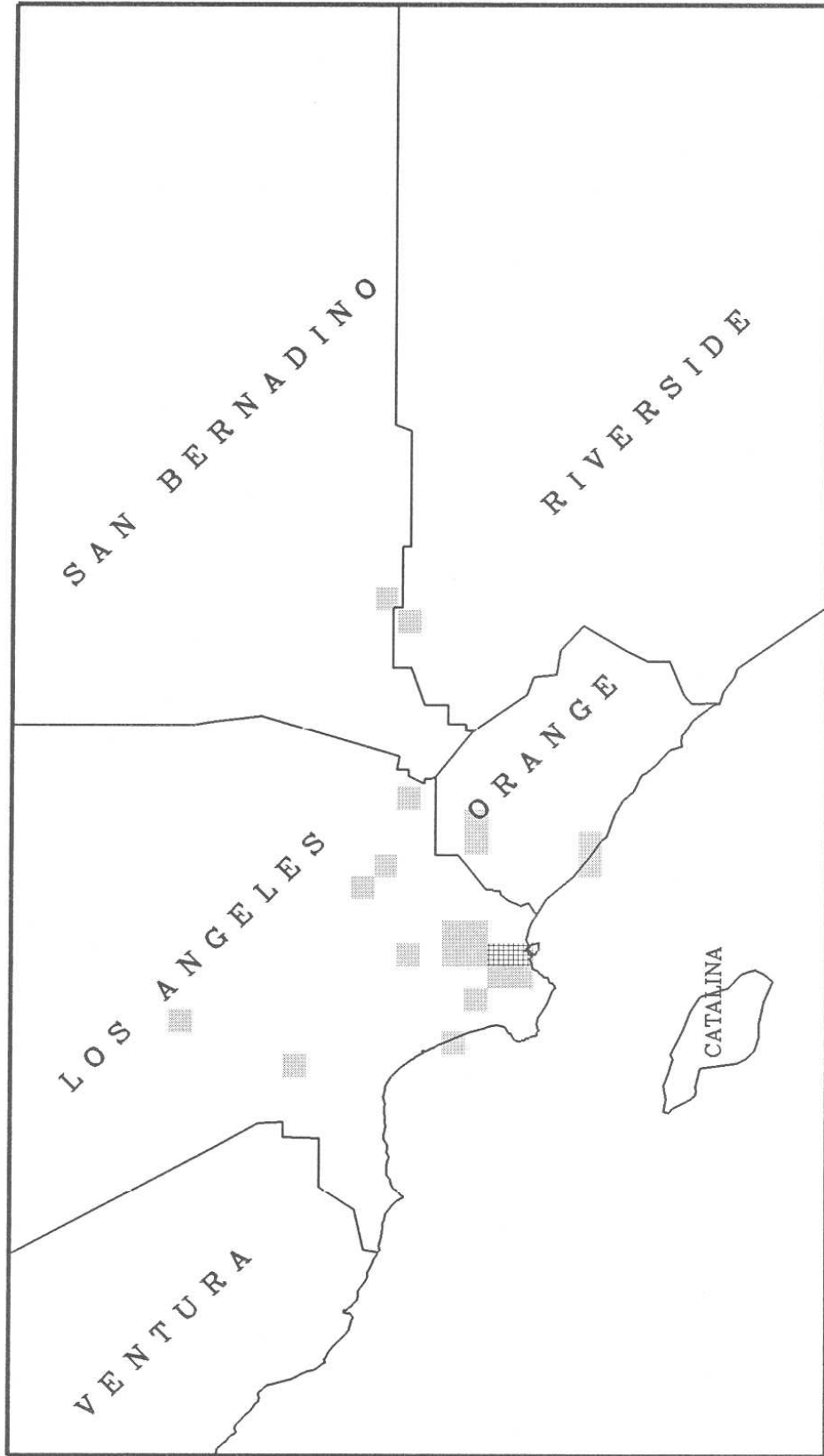
RECLAIM Facilities

Certified SOx Emissions (Tons) from 07/2004 to 09/2004



RECLAIM Facilities

Certified SOx Emissions (Tons) from 10/2004 to 12/2004

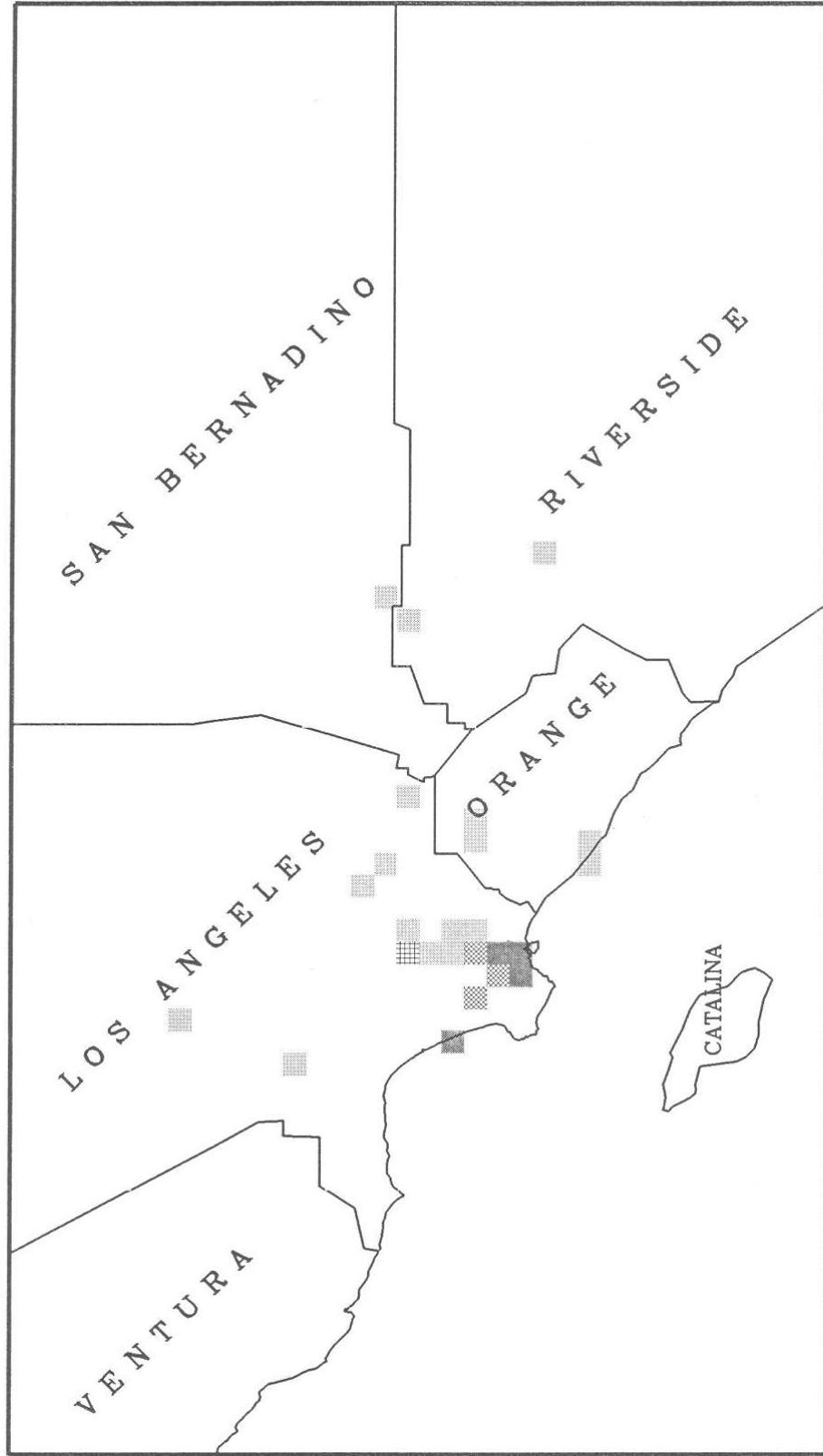


max. emissions = 184 tons

Generated on 1/24/ 6

RECLAIM Facilities

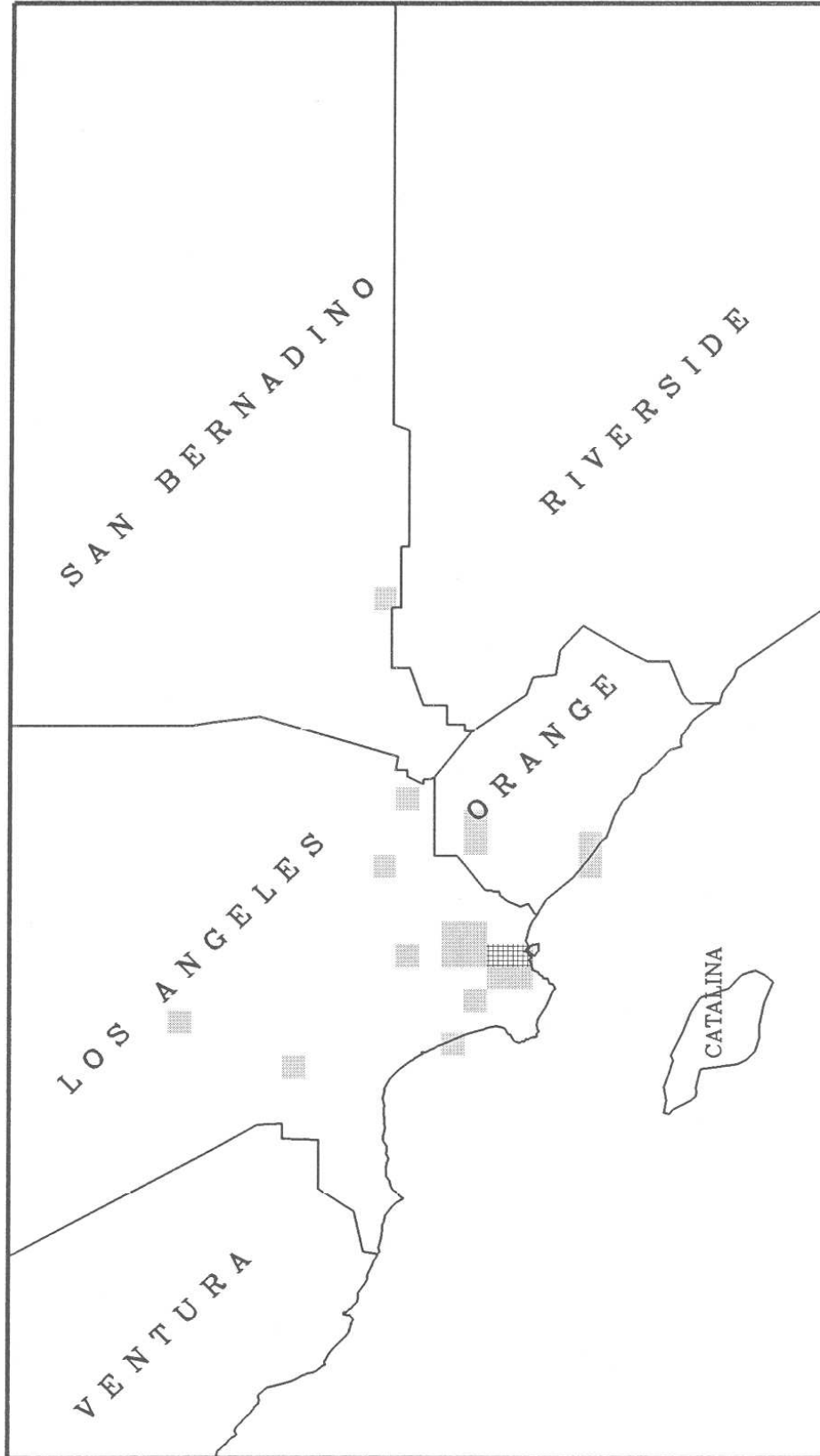
Certified SOx Emissions (Tons) Year to date (12/31/2004)



Generated on 1/24/ 6

RECLAIM Facilities

Certified SOx Emissions (Tons) from 01/2005 to 03/2005

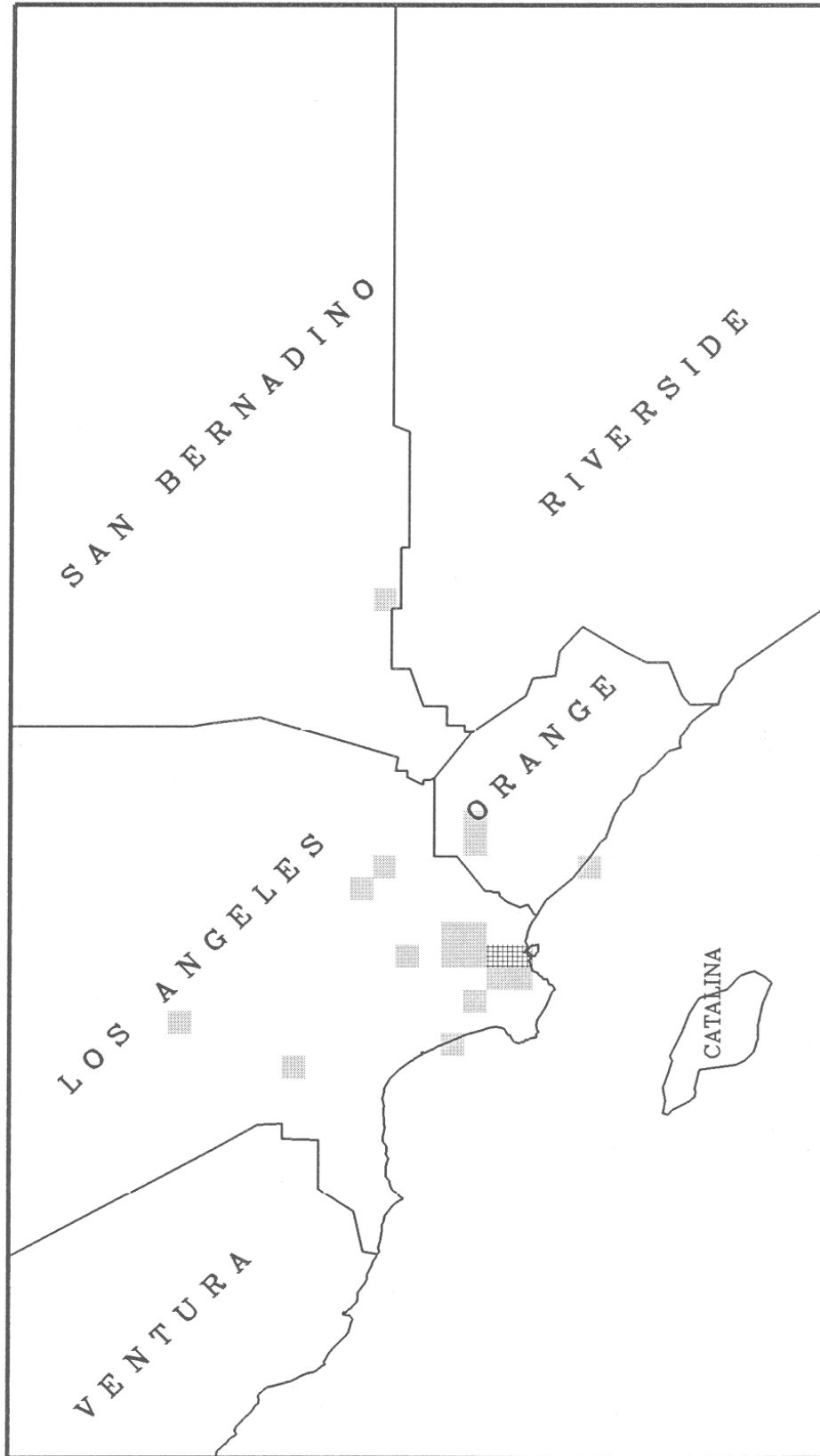


max. emissions = 236 tons

Generated on 1/24/ 6

RECLAIM Facilities

Certified SOx Emissions (Tons) from 04/2005 to 06/2005

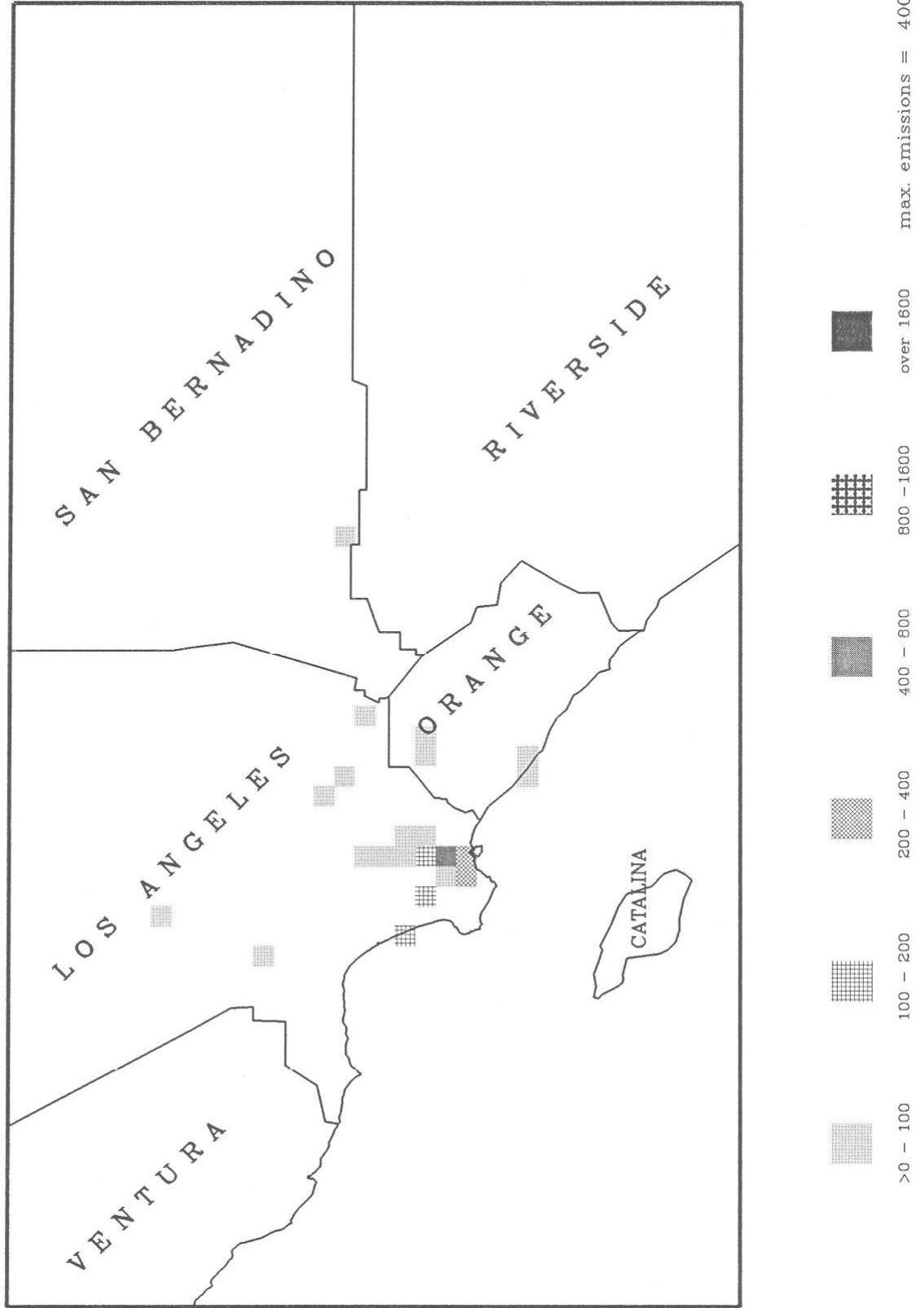


max. emissions = 188 tons

Generated on 1/24/ 6

RECLAIM Facilities

Certified SOx Emissions (Tons) Year to date (06/30/2005)



Generated on 1/24/ 6

